



BEHAVIORAL PERSPECTIVE ON SPEED OF INTERNATIONALIZATION AND FOREIGN LOCATION CHOICE OF MULTINATIONAL CORPORATIONS: EVIDENCE FROM JAPANESE PUBLIC FIRMS

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PHD DISSERTATION

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FOREIGN LOCATION CHOICE OF MULTINATIONAL CORPORATIONS:
EVIDENCE FROM JAPANESE PUBLIC FIRMS**

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ABSTRACT

This dissertation uses the behavioral theory of the firm to investigate internal factors that underlie a firm's decision to change its speed of internationalization and its choice of foreign location. From a behavioral perspective, performance feedback and organizational slack are expected to influence the level of a firm's risk taking, and subsequently, its decision to change the speed of internationalization and expand its business to psychically distant locations. More specifically, firms with performance below aspiration level or with excessive slack are more likely to exhibit a higher speed of internationalization and enter foreign markets at greater psychic distance. Based on time-series cross-sectional data across 1991–2017 of 693 publicly listed manufacturing firms in Japan, the empirical findings illustrate that the speed of a firm's internationalization and the psychic distance of its foreign location choices are positively associated with its slack and are non-linearly associated with performance feedback. The non-linear relationship exhibits different intensities in the behaviors of market-leading firms, mediocre firms, and market-losing firms. These patterns are also clearly present among firms in highly global competitive industries.

Keywords: Behavioral theory of the firm (BTOF), Organizational slack, Performance feedback, Internationalization processes, Location choice, Psychic distance

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CHAPTER 1

INTRODUCTION

1.1 Research Background

In recent decades, the international activities of firms have come into focus (Welch & Luostarinen, 1988; Cheng, Birkinshaw, Lessard & Thomas, 2014; Cantwell, Piepenbrink & Shukla, 2014). Firms have pursued the international strategy of foreign market expansion, regardless of their size, to achieve their objectives (e.g., sales growth, market share, and profits). In the World Investment Report 2016, the UNCTAD (2006, 2016) has demonstrated that global flows of foreign direct investment (FDI) have increased by 430% to reach USD 1.75 trillion in 2016, up from USD 0.33 trillion in 1996. World Bank Enterprise Surveys also revealed that export activities of small and medium enterprises (SMEs) in both developed and developing countries have increased tremendously over the last 10 years (WTO, 2016).

In the field of international business, scholars are increasingly examining the internationalization process of firms (e.g., Kontinen & Ojala, 2010; Ruzzier, Hisrich, & Antoncic, 2006; Lommelen & Matthyssens, 2005). The evolution of information and communication technologies (ICT) and the spread of e-business, which began in the late twentieth century, have changed the nature of business competition and introduced new processes in international business activities (Alcácer, Cantwell, & Piscitello, 2016). In this new global business environment, the nature of internationalization process of firms has changed. Johanson and Vahlne (2009), revisiting their own internationalization model, argued that changes in the international environment could reduce the validity of the establishment chain or the four-stage model. Several studies have found that companies sometimes leapfrogged stages in the establishment chain (Hedlund & Kverneland, 1985; Luo & Tung, 2007), began internationalizing soon after their birth (Oviatt & McDougall, 1994), rapidly internationalized (Oviatt & McDougall, 1994; Zahra, Ireland, & Hitt, 2000), and initially entered foreign markets that were not psychologically close (Bell, 1995). A case study of large home appliances

companies in China, Mexico, and Turkey has provided empirical evidence that developing country multinational enterprises (MNEs) tend to accelerate internationalization activities to gain global competitive advantage (Bonaglia, Goldstein, & Mathews, 2007). Therefore, studies on firm's internationalization processes provide better and deeper understanding of the changing behavior in the international activities of firms.

A recent stream of research in international business literature examines the speed dimension of internationalization processes, mostly in the context of international entrepreneurship (Casillas & Acedo, 2013; Oviatt & McDougall, 1994; Zahra & George, 2002). Evidence shows that new international ventures with internationalization in the early stages of business establishment run counter to the conventional theory of gradual internationalization process. It suggests that firms incrementally increase commitments in foreign markets with the accumulation of experiential knowledge, acquired through experiential learning, to minimize risk from the liability of foreignness (Johanson & Vahlne, 1977, 1990; Cavusgil, 1980; Welch & Luostarinen, 1988; Coviello & McAuley, 1999; Zaheer, 1995; Zaheer & Mosakowski, 1997). More precisely, the conventional theory predicts that firms start international activities by exporting through intermediaries or agents, establish their own sales subsidiaries to replace agents when sales increase, and ultimately establish their own production or manufacturing units in foreign markets. This internationalization pattern is known as the “establishment chain” (Johanson & Wiedersheim-Paul, 1975; Forsgren, 2015; Johanson & Vahlne, 1977, 1990, 2009).

In addition to the pattern of gradual exposure to foreign markets, the conventional internationalization theory also suggests that the establishment of foreign production facilities frequently starts in locations that are close to the home country of the firms. This is measured in terms of psychic distance, which comprises factors that make it difficult to understand foreign environments, such as differences in language, education, business practices, culture, and industrial development (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977, 2009). Based on the conventional internationalization theory, firms tend to enter new markets with successively greater psychic distance

and foreign market investments develop as per the “establishment chain” to minimize risk from the liability of foreignness (Johanson & Vahlne, 1990).

The gradual internationalization described by the conventional theory might not be viable in some circumstances, particularly in a new business environment where communication and information technologies are advancing and e-business is spreading. Facing increased global competition and the high pressures of globalization, firms are expanding into foreign markets to reach global scales more rapidly than before to capture first-mover advantages (Chang & Rhee, 2011). Prior studies (Oviatt & McDougall, 1994; Zahra, Ireland, & Hitt, 2000) have documented the increasing speed of the internationalization process. Since the 1970s, there is increasing evidence of the high-pace of internationalization or leap-frogging behavior in the establishment chain (e.g., Hedlund & Kverneland, 1985; Johanson & Vahlne, 1990). The phenomenon of “born global” has proved that the order in which companies enter foreign markets no longer correlates with psychic distance (Madsen & Servais, 1997). An empirical study of FDI undertaken by Swedish banks and Norwegian manufacturing companies also found no support for the notion that the first FDI occurs in culturally close countries (Engwall & Wallenstål, 1988; Benito & Gripsrud, 1992) and distance could actually be overcome by a manager’s personal network (Child, Ng, & Wong, 2002). Prior empirical studies also indicate little support for the notion of the establishment chain; the choice of export mode indeed depends on several factors, including dissatisfaction with sales agents, product or market diversification, and comparison between the cost and benefit of market entry (Calof & Beamish, 1995; Andersen, 1993; Rosson, 1987).

Although experiential knowledge plays a central role in the gradual internationalization model, it cannot effectively explain the phenomena of rapid internationalization and the reason firms enter foreign markets regardless of psychic distance. Without any prior acquisition of specific market knowledge in the target countries, more firms have chosen to establish subsidiaries simultaneously in several foreign markets (e.g., Oviatt & McDougall, 1994; Knight, 2000; Moen & Servais, 2002; Knight & Cavusgil, 2004), and not necessarily start internationalizing in neighboring markets, which are psychically closer to their home markets (Madsen & Servais, 1997). The correlation between the order

in which a company enters foreign markets and the psychic distance has weakened (Johanson & Vahlne, 2009).

This dissertation examines the circumstances under which firms decide to increase the pace of internationalization, as internationalization is not a linear process, including a period of acceleration, deceleration, and constant speed (Johanson & Kalinic, 2016). Focusing on internal factors that determine a firm's behavior, the empirical analysis uses the concepts of performance feedback and slack in the behavioral theory of the firm (e.g., Cyert & March, 1963; Greve, 2003b) to understand the behavior of firms regarding changes in the speed of internationalization and foreign location choice. The use of concepts such as performance feedback and slack is appropriate for this dissertation because of two main reasons. First, performance feedback and slack are important determinants that induce organizational search (Cyert & March, 1963, Greve, 2003b). According to the internationalization process model, market knowledge is the fundamental base to a firm's internationalization process and it can be developed through experience in the market. However, the concept of experiential learning cannot explain the rapid internationalization of firms. Firms could gain knowledge without long-term experiences (Forsgren, 2002). Other types of organizational learning might explain this internationalization behavior. For example, Huber (1991) argues that firms can learn by conducting a focused search for new information, new solutions, or additional alternatives. This proactive non-experiential learning can speed up the internationalization process (Forsgren, 2002; Johanson & Vahlne, 2009). Focused search is not a casual behavioral, not initiated unless it is necessary to do so (Reitzel, 1958). Based on the behavioral theory of the firm (Cyert & March, 1963; Greve, 2003b), this dissertation hypothesizes that organizational search, which leads to a firm's decision to internationalize, can be triggered by negative performance feedback, and abundant slack.

Second, performance and organizational slack are found to influence managerial risk taking (e.g., Cyert & March, 1992; Singh, 1986; Wiseman & Bromiley, 1996; Greve, 2003b). Cyert and March (1992, p. 228) argued that, "risk taking appears to be affected by the size of the gap between aspirations and realizations" and "appear to be affected by the presence of resources in excess of current aspirations."

Internationalization is a risky organizational change and firms usually postpone each successive step into a certain market until the perceived risk in the new investment is lower than the maximum tolerable risk (Johanson & Vahlne, 1977, p. 34). According to the behavioral theory of the firm (Cyert & March, 1963; Greve, 2003b), firms that perform below aspiration levels or have excessive slack are likely to increase their level of risk tolerance, and subsequently, increase their level of risk taking, leading to the decision to internationalize. Thus, when the maximum tolerable risk is higher due to negative organizational performance and abundant slack, the firm is likely to leapfrog to higher risk stages in the establishment chain of an internationalization pattern and enter foreign markets with long psychic distance, which is perceived to have a higher risk.

Understanding the behavior of firms in the internationalization process and choice of foreign location from the perspective of behavioral theory, can provide new insights into why and how firms pursue internationalization strategies differently from the traditional internationalization model. Internationalization can help firms grow and increase competitiveness; however, there is an inherent risk in internationalization activities (Figueira-de-Lemos, Johanson, & Vahlne, 2011; Liesch, Welch, & Buckley, 2011). The core concept of internationalization is related to a firm's learning process, decision making, and risk tolerance (Johanson & Vahlne, 2009; Forsgren, 2002; Andersen, 1993). Performance feedback and slack, which are important factors that induce organizational learning, risk taking, and proactive strategic decision making, can provide a useful framework to examine internationalization behavior.

Specifically, I attempt to understand the influence of performance feedback and slack on the speed of internationalization and decisions on foreign location choices. In today's constantly changing business environments, this dissertation presents an explanation of the internationalization process of firms beyond the current context of international entrepreneurship, and provides empirical evidence on the internationalization behavior of large and well-established Japanese multinational firms.

1.2 Research objectives and research questions

The internationalization of firms is an evolutionary process and the consequence of a series of incremental decisions by firms (Cavusgil & Godiwalla, 1982). Conventional theory of international business describes that firms make slow and step-by-step commitments that establish operations in new countries in succession to minimize risk (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977; Forsgren & Kinch, 1970). Today, we witness an increasing number of firms that quickly achieve a global scale in response to rapid changes in business environments and increasing competition in local and global markets (Chang & Rhee, 2011). This leap-frogging behavior presents an interesting phenomenon for empirical testing.

The foremost objective of this research is to understand the behavior of multinational firms with regard to their internationalization processes and choice of foreign location from the perspective of the behavioral theory of the firm. The specific objectives of this research are threefold. First, based on the behavioral theory of the firm, which offers a good platform to examine internationalization behavior, I attempt to examine (i) the relationship between performance feedback and the pace of a firm's internationalization process and (ii) the relationship between organizational slack and the pace of a firm's internationalization process.

Second, as the levels of performance feedback and slack influence the level of risk taking (e.g., Singh, 1986; Bromiley, 1991; Argote & Greve, 2007; Gavetti, Greve, Levinthal, & Ocasio, 2012), I examine (i) whether performance feedback affects a firm's location choice decision, and to what extent, and (ii) whether organizational slack affects the specific location choice of a firm, and to what extent.

Lastly, as the intensity of global business competition varies across industries (Doz, Bartlett, & Prahalad, 1981; Spanos, Zaralis, & Lioukas, 2004; Khosravi et al., 2018), this dissertation aims to investigate (i) whether industry global competition, as measured by industry-level competitive pressure from globalization developed by Makhija, Kim, and Williamson (1997), moderates the effects of

performance feedback on the speed of firm's internationalization, and (ii) whether industry global competition moderates the effects of a firm's slack on the speed of firm's internationalization.

To achieve the aforementioned research objectives, this dissertation answers the following research questions.

1. How and to what extent does performance feedback of a firm influence the speed dimensions of its internationalization?

2. How and to what extent does organizational slack influence the speed dimensions of a firm's internationalization?

3. How and to what extent does performance feedback of a firm influence its choice of FDI location?

4. How and to what extent does organizational slack of a firm influence its choice of FDI location?

5. How and to what extent does industry global competition moderate the effects of performance feedback and organizational slack on the speed of a firm's internationalization?

1.3 Research gap and contributions of the study

Most prior empirical studies on the internationalization process focus on the effect of internationalization on the performance of firms (e.g., Contractor, Kundu, & Hsu, 2003; Glaum & Oesterle, 2007) and the effect of rapid internationalization on the performance of firms (e.g., Chang & Rhee, 2011; Mohr & Batsakis, 2017). However, very few studies examine antecedents or factors that influence the internationalization behavior of firms. This dissertation, from a behavioral perspective, examines factors that drive firms to change the speed of their internationalization over a specific period of time.

Most research on the speed of internationalization concentrates on empirical studies of international new ventures, born globals, and international entrepreneurs—all classified as SME. However, few studies consider large and established firms (Schwens et al., 2018; Zander, McDougall-Covin, & Rose, 2015). Most studies on the speed of internationalization in MNEs use a sample group of firms from the US. Therefore, this dissertation evaluates factors on the post-entry speed of Japanese MNEs. Through an empirical study of the internationalization process of Japanese firms, this dissertation provides identifiable and unique characteristics to contribute to the literature in both theoretical and practical aspects.

1.3.1 Theoretical relevance and contribution

In theoretical aspects, this dissertation contributes to the literature on behavioral theory of the firm, its internationalization process, and choice of location for FDI. First, in contribution to the literature on the behavioral theory of the firm, this dissertation explores the role of performance feedback and organizational slack as a factor underlying a firm's decision on internationalization. Prior empirical studies focus on performance feedback and organizational slack as inducement for research and development (R&D) and innovation (e.g., Greve, 2003a; Chen & Miller, 2007). However, this dissertation applies concepts of performance feedback and organizational slack of the behavioral theory of the firm (Cyert & March, 1963) to explain a firm's strategic organizational change. More specifically, the empirical results on the relationship between a firm's performance, slack, and internationalization, improve understanding of the role of slack and performance feedback in risky strategic organizational moves towards internationalization.

Second, contributing to the knowledge of firm internationalization, the concepts of performance feedback and slack provide a behavioral explanation that underlies the increasing speed of a firm's internationalization. Thus, this dissertation provides an explanation for why firms do not gradually increase their involvement in specific foreign markets but pursue rapid internationalization strategies. Most prior studies (e.g., Chang, Jaw, & Chiu, 2012; Lin, Cheng, & Liu, 2009) focus primarily on either performance or excess resources, as antecedents to internationalization process; very few studies (e.g.,

Jung & Bansal, 2009; Lin, 2014) apply both factors, and even fewer studies examine the interaction effect of performance feedback and organizational slack.

Most research on the speed of internationalization concentrates on the speed of initial internationalization, measuring speed as the elapsed time between a firm's foundation and its initial international activities. However, there is a call to examine the speed of subsequent international growth, following prior international activities (Casillas & Acedo, 2013; Autio, Sapienza, & Almeida, 2000). Speed is multidimensional with many possible measurements, such as the rate of change in international growth and in the extent of resource commitment to international markets, or the scope of internationalization itself (Sullivan, 1994; Zahra & George, 2002). However, most empirical studies investigating the speed of internationalization processes focus only on the dispersion rate or the rate of change in the scope of internationalization, as measured by the average number of new international subsidiaries invested per year (Lin, 2014).

In this dissertation, I intend to bridge a research gap by empirically testing both performance feedback and organizational slack, as antecedents to rapid internationalization processes of firms and measure the speed of internationalization using multiple measurements. The different measurements are expected to yield different relationships with performance feedback and slack, because decision makers should have higher risk propensity when investing in new international subsidiaries or increasing resource commitments to international markets than to increase only international sales.

The information revolution and international network-based capitalism (Alcacer et al., 2016; Cantwell, 2014) mean that firms expand businesses into foreign markets more rapidly (Chang & Rhee, 2011). Amid the change in business environments, prior studies rarely examine the effects of global competition on the internationalization behavior of firms. Again, this dissertation intends to bridge the research gap by examining the effect of global competition in each industry, as measured by the extent to which firms are exposed to global competition, on the relationships between performance feedback and slack, and internationalization behavior of the firm (Makhija et al., 1997). This dissertation contributes to internationalization process theory by examining the factors that influence the pace of

internationalization and the effects of industry-level global competition on the internationalization behavior of firms.

Lastly, contributing to the literature on FDI location choices, this dissertation provides additional evidence on factors that trigger a firm's decision to invest in specific locations. The conventional IB theory, that internationalization frequently begins in foreign markets that are close to domestic markets in terms of psychic distance to reduce the risk from liability of foreignness (Johanson & Wiedersheim-Paul, 1975), seems to be less relevant today. Prior literature (e.g., Nuwagaba, Ntayi, & Ngoma, 2013; Quer et al., 2007; O'grady & Lane, 1996) found that psychic distance between the home and foreign markets is positively correlated with the perceived risk of FDI. Negative performance feedback and slack tend to increase a firm's risk tolerance (e.g., Singh, 1986; Cyert & March, 1992). Therefore, performance feedback and organizational slack can possibly affect the location choices of firms. An empirical test of the relationships between firm's performance, slack, and psychic distance in this dissertation, provides a deeper understanding of the firm's location choice behavior and the factors that drive firms to establish production facilities or subsidiaries in foreign locations that are further away in terms of psychic distance.

1.3.2 Practical relevance and contribution

The managerial implications of this dissertation directly relate to how foreign market expansion and FDI location choice is affected by negative performance feedback and slack of firms. This empirical study would reveal behavioral adjustment and strategic organizational change of firms in reaction to performance below aspirations and excess slack.

The findings from this dissertation provide empirical evidence for the need to design and manage performance feedback systems carefully to prevent the maladaptive consequences of a firm's strategic decisions from outweighing the desired benefits (Greve, 2010). The research results would also increase a firm's awareness about the importance of performance feedback process and its

momentum effects. This knowledge will be beneficial to firms in improving managerial decision-making and taking strategic actions.

Another practical implication of this dissertation is related to the effect of levels of organizational slack on the internationalization of a firm. The results from this dissertation provide guidance to the management on using various types of slack (i.e., financial resources, borrowing capacity, and administrative resources) as a reference for managerial decisions. Different types of slack could have different effects on organizations. For example, Greve (2007) found that excess cash and cash equivalents increase the innovation launch rate; however, sales and administrative resources did not show any effect. On the other hand, Singh (1986) found that sales and administrative resources increase risk taking in organization; however, excess cash and marketable securities had no effect. Therefore, not only should management focus on identifying appropriate levels and types of slack for organizations, but efficiently allocate them to the appropriate functions.

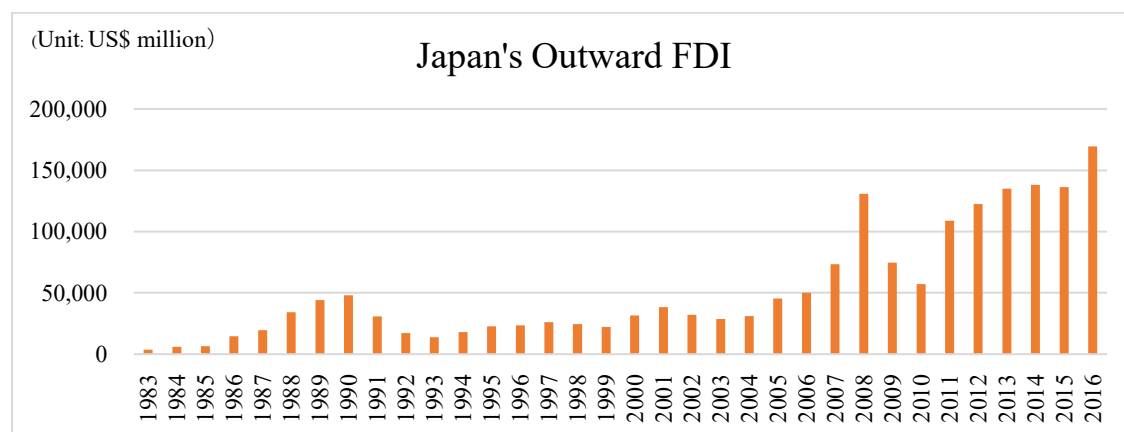
Finally, the findings from this dissertation can guide decision makers in firms in using a performance feedback system and slack in initiating internationalization strategies and choosing foreign investment locations.

1.4 Scope of the study

This dissertation examines the effects of performance feedback and slack on the speed of change in the internationalization and FDI location choice of publicly listed Japanese firms during 1991–2017. Empirical studies on the internationalization behavior of Japanese firms are particularly important, as Japanese multinational firms are often leading global players and the increasing trend of Japan's outward FDI is quite noticeable in recent years (See figure 1.1). The study period covers the information revolution period since the late twentieth century (Alcácer et al., 2016) and the period of upward trend of outward FDI from 2004 to 2008 in Japan (JETRO, 2017). The period of study also

covers two major economic crises (i.e., after the peak of Japanese economic cycle in 1991¹ and the global financial crisis in 2008), which have significant impact on the operations and performances of Japanese multinational firms. Facing considerable volatility in performance and slack, Japanese multinational firms may exhibit interesting patterns of international expansion and location choice decisions, which this dissertation intends to capture.

Figure 1.1: Japan's outward FDI by year



Source: JETRO, 2017

A Japanese firm's internationalization behavior provides a good research setting because most current studies on the internationalization process have focused on SMEs, born globals, and international entrepreneurship (Oviatt & McDougall, 1994; Casillas & Acedo, 2013; Ruzzier et al., 2006). Although some empirical studies do examine the internationalization process of large firms, few studies do so from perspectives of Japanese firms. In addition, prior studies (Bonaglia et al., 2007; Lin, 2014; Child & Rodrigues, 2005; Dib, Da Rocha, & Da Silva, 2010) mostly focus on firms from emerging economies (e.g., China, Taiwan, Mexico, Brazil, and Turkey). Therefore, examining the internationalization behavior of established firms in developed economies (i.e., Japan) contributes significantly to the international business literature.

¹ Economic Planning Agency (EPA) concluded that the Japanese economic cycle peaked in February 1991 as indicated by the peak of CPI inflation. To be more specific, inflation in Japan, as measured by the annual growth rate of the GDP implicit deflator, in 1988, 1989, 1990, 1991, 1992, and 1993 were 0.625, 2.109, 2.605, 2.928, 1.667, and 0.568 respectively.

1.5 Definition of terms

1.5.1 “*Internationalization*” refers to the outward movement of a firm’s international operations across borders (Turnbul, 1987). With international trade becoming more dynamic, Welch and Luostarinen (1988) broadly state that internationalization is the process of increasing involvement in international activities, both inward and outward (Welch & Luostarinen, 1988). The cross-border activities can be either physical or electronic, or both (Tallman & Yip, 2001).

1.5.2 “*Speed of internationalization*” refers to the speed of change in a firm’s internationalization process, as measured by the percentage change in the degree of internationalization, commitment of foreign resources, and the breadth of international markets, in time t relative to time $t-1$.

1.5.3 “*Organizational slack*” is the disparity between the resources available to the organization and the payments required to maintain the coalition (Cyert & March, 1963, p. 36). It acts as “a cushion of actual or potential resources which allows an organization to adapt successfully to internal pressures for adjustment or to external pressures for changes in policy, as well as to initiate changes in strategy with respect to the external environment” (Bourgeois, 1981).

1.5.3.1 “*Absorbed Slack*” refers to slack that is already absorbed as costs in organizations, for example, sales, general, and administrative costs (Singh, 1986). The absorbed slack, seen in many types of operating costs, reflects resources that firms possess, such as production capacity, working hours, and skilled labor.

1.5.3.2 “*Unabsorbed slack*” refers to liquid resources uncommitted to liabilities in the near future (Singh, 1986). It reflects the financial flexibility of firms, and if they have cash or cash equivalents available for immediate use.

1.5.3.3 “*Potential slack*” refers to borrowing ability, which indicates a firm’s ability to support investment via debt financing in the future (Bourgeois & Singh, 1983).

1.5.4 “*Performance feedback*” refers to the information transmitted back to decision makers regarding past performances (Alvero, Bucklin, & Austin, 2001), which can be interpreted to indicate current performance. If the performance is good or the goal is achieved, the feedback will be positive, that is, “positive performance feedback.” If the goal is not achieved, the performance will be negative, which is “negative performance feedback.”

1.5.5 “*Psychic distance*” is a set of factors preventing or disturbing information flows (Johanson & Wiedersheim-Paul, 1975) or learning ability about foreign environment (Nordstrom & Vahlne, 1994) between firms and foreign markets.

1.5.6 “*Industry global competition*” refers to the extent of exposure of local industries to global competition or competitive pressure stemming from industrial globalization (Chang & Rhee, 2011; Makhija et al., 1997).

1.5.7 “*Risk and Uncertainty*” refers to “the variance of the probability distribution of possible gains and losses associated with a particular alternative” (March & Shapira, 1987: 1404). The term can be simply interpreted as “the possibility of loss” (Yates & Stone, 1992, p. 4). Risk is different from uncertainty in that “*risk*” is measurable, because the probability of outcome is calculable based on historical data; however, “*uncertainty*” is unmeasurable, because the variance of an outcome is unknown (Knight, 1921)

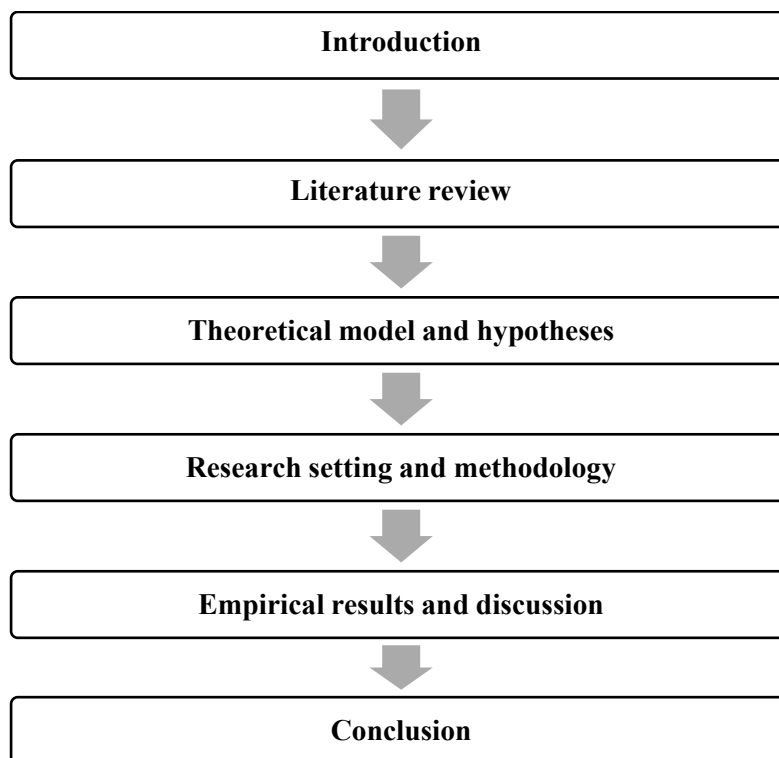
1.5.8 “*Foreign subsidiaries*” in this dissertation means overseas operations in which Japanese parent firms own at least 5% or greater in equity shares

1.6 Structure of the dissertation

This dissertation is organized into the following six chapters. Chapter 2 provides a review of the literature on internationalization processes, the role of global competition, the behavioral theory of the firm, and a foreign location choice relative to psychic distance. Chapter 3 presents a conceptual framework and develops specific hypotheses associated with the proposed conceptual framework for

empirical testing. Chapter 4 addresses research setting methodologies, which outline the research design, sample selections, measurements of the variables, and statistical tools for data analysis. Chapter 5 presents empirical results, summarizes the key findings of the empirical study, and provides an intensive discussion of the empirical results. Chapter 6 provides contributions, research and managerial implications, limitations and suggestions for future studies, and draws conclusions. This final chapter emphasizes the significance of the research findings, discusses practical and theoretical implications of the findings, addresses some limitations, and provides suggestions for future research.

Figure 1.2: Structure of the dissertation



1.7 Summary

This dissertation contributes to three streams of literature: (1) behavioral theory of the firm, (2) internationalization process of firms, and (3) FDI location choice of firms. The main objective of the dissertation is to understand the behavior of multinational firms (i.e., Japanese multinational firms) in their internationalization process and their location choices, from the perspective of the behavioral

theory of the firm. More specifically, I empirically test the relationships between performance feedback, organizational slack, and the speed dimension of a firm's internationalization strategy. I also empirically examine the influence of performance feedback and organizational slack on a firm's FDI location choice. Finally, I analyze the moderating effect of industry global competition on the relationship between performance feedback, organizational slack, and the speed dimension of firm's internationalization.

Despite several prior studies on the internationalization process of firms, some gaps remain, especially of the rapid and leap-frogging internationalization process of firms and factors underlying the decision-making process for investment in psychically distant locations. In this dissertation, I attempt to examine the internationalization behavior of firms and their choice of specific foreign locations for international activities by applying the concepts of performance feedback and slack from the behavioral theory of the firm. Most empirical research on the effects of performance feedback and slack treats performance feedback and organizational slack as isolated concepts (e.g., Jung & Bansal, 2009; Chang, Jaw, & Chiu, 2012; Lin, Cheng, & Liu, 2009). This dissertation integrates both concepts and examines the effect of industry-level global competition on a firm's decision to increase the speed of their internationalization process. The empirical results from this dissertation will bridge the gap in international business literature and contribute to a better understanding of internationalization processes under a highly competitive environment in the current era of information and communication technology revolution, and the spread of e-commerce businesses.

CHAPTER 2

LITERATURE REVIEW

2.1 Internationalization process and organizational learning

The term “*Internationalization*” has been widely used to describe the cross-border geographic movement of a firm's international activities, both physically and electronically (e.g., Turnbull, 1987; Tallman & Yip, 2001). Many scholars have defined “*internationalization*”; however, there is no agreement on one definition. While Turnbull (1987) limits the scope of internationalization only to outward movements of international operations, Welch and Luostarinen (1988, p. 36) provided a broader definition, as “the process of increasing involvement in international operations of a firm,” including both inward and outward movement. Later, Calof and Beamish (1995) suggested that internationalization is not only about increasing involvement in foreign markets, but sometimes also about decreasing international activities or divesting investments in foreign markets. Calof and Beamish (1995) offered a more general definition that internationalization is “the process of adapting firms’ operations (strategy, structure, resource, etc.) to international environments.” Although there is no consensus, all these definitions could imply that internationalization is associated with cross-border activities of involvement in international markets, which include both inward and outward directions.

A well-known behavioral based internationalization process model is the Uppsala Internationalization Process Model (Johanson & Vahlne, 1977, 1990; Johanson & Wiedersheim-Paul, 1975). The core concept of a firm’s internationalization is related to its learning process, decision-making, and risk tolerance (Johanson & Vahlne, 2009; Forsgren, 2002; Andersen, 1993). The basic assumptions of the internationalization process model are as follows: (1) Lack of knowledge about foreign markets is a major obstacle to international operations, but such knowledge can be acquired (Johanson & Vahlne, 1977, p. 23). (2) Decisions on foreign investments are incremental to decrease uncertainty, as incrementalism is a management learning process based on learning by doing (Johnson, 1988; Quinn, 1980). Finally, (3) a firm will postpone each successive step in entering a certain market,

until the perceived risk associated with the new investment is lower than the maximum tolerable risk (Johanson & Vahlne, 1977, p. 34).

The internationalization activities of firms involve risk and uncertainty because of changing business environments and a lack of market information in foreign markets render the process outcome of internationalization less certain (Knight, 1921; Caves, 1996; Miller, 1993; Oviatt, Shrader, & McDougall, 2004). Risk is different from uncertainty in that risk is measurable based on information on hand and the probability of an outcome is insured; however, uncertainty is unmeasurable and the probability of an outcome is uninsured (Knight, 1921; Langlois & Cosgel, 1993). In international business, risk may refer to the variation in profitability derived from international operations under uncertain environmental components such as political instability and competition. In contrast, uncertainty may refer to the unpredictability of environmental or organizational variables or the insufficient information about these variables, which render the performance outcome unmeasurable (Miller, 1992). Examples of variables that increase risk or uncertainty in performance outcome in international management are political risk, that is, unexpected changes in rules or policies under which businesses operate (Busse & Hefeker, 2007; Butler & Joaquin, 1998) or foreign exchange uncertainties due to exchange rate volatility (Darby, Hallett, Ireland, & Piscitelli, 1999).

Usually, managers have little knowledge about local networks in host countries (Johanson & Vahlne, 2009; Vahlne, Schweizer, & Johanson, 2012). Firms that expand businesses to overseas markets become outsiders in local networks, and face uncertainty from the liability of outsidership (Vahlne et al., 2012). They must also cope with new social, legal, and economic settings, which differ from their home countries (Wagner, 2004), and in many cases, must adapt management practices to the specific national culture (Newman & Nollen, 1996). All of these factors create risk and uncertainty for firms when expanding business abroad. Firms that expand businesses to overseas markets with a broader scope, that is, international expansion to multiple countries with more product lines in parallel, will face high complexity in managing different external environments, internal resources, and capabilities related to international expansion. Such complexity could lead to higher constraints on

managerial resources, capacities, and capabilities, negatively affecting a firm's performance (Hutzschenreuter & Guenther, 2008).

Although the majority of the literature in international business examines the impact of internationalization on a firm's performance, the findings have been inconclusive and contradictory for both SMEs (e.g., Wright, Westhead, & Ucbasaran, 2007; Lu & Beamish, 2001) and large enterprises (e.g., Glaum & Oesterle, 2007; Contractor, Kundu, & Hsu, 2003; Ruigrok & Wagner, 2003). This inconclusive result in terms of return on international investment underlines the risk of internationalization, especially from a liability of foreignness (Coviello & McAuley, 1999; Zaheer, 1995; Zaheer & Mosakowski, 1997). To reduce the risk and uncertainty that may occur from the liability of foreignness, the conventional theory assumed internationalization as an incremental process in which firms gradually increase their international involvement and commit resources when knowledge acquisition increases (Johanson & Vahlne, 1977; Barkema, Bell, & Penning, 1996; Johanson & Wiedersheim-Paul, 1975; Chang & Rosenzweig, 2001).

According to the internationalization theory (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977), the internationalization behavior of firms is an incremental process and influenced by experiential knowledge in foreign markets, which can be accumulated through regular international business activities (e.g., Forsgren, 2002; Yu, 1990; Johanson & Wiedersheim-Paul, 1975; Karafakioglu, 1986; De Clercq et al., 2012). Aharoni (1966) also argued that organizations learn from experience of previous decisions in foreign investment, which drive them to increasing involvement and expansion in international operations. Firms can gain and store knowledge about international business from the routinization of organizational activities in foreign markets because organizations remember by doing (Nelson & Winter, 1982). In particular, the less experience a firm has of international business, the less knowledge it will have on organizing international operations (Eriksson et al., 1997). Madhok (1996) studied the effect of experience on firm's internationalization by conducting 14 in-depth interviews with senior managers of Canada-based multinational firms. He found that all 14 managers believed that experiences are sources of competitive advantage and is critical to successful international business

operations. The perceived risk of internationalization will be greater when firms lack international knowledge and experience (Casillas, Barbero, & Sapienza, 2015; Yu, 1990), which in turn, affect their decision to internationalize (Eriksson et al., 2015). Therefore, the gradual internationalization process theory emphasizes the benefits of knowledge gained from experiential learning in the foreign countries because it can reduce both the risk and the uncertainty of operating in these foreign markets (Buckley & Casson, 1981; Johanson & Vahlne, 1977)

The knowledge acquired through experiential learning also influences the selection of location and entry mode. Empirical studies on market selection suggest that firms with more experience in foreign markets tend to expand their businesses to overseas markets that are not similar to home markets (Davidson, 1980, 1983; Barkema, Bell, & Pennings, 1996). Firms will also move from one stage to another (e.g., export, sales branch, wholly owned production) as they gain experiential knowledge in a particular foreign market (Kogut & Singh, 1988; Calof & Beamish, 1995; Erramilli & Rao, 1993).

Although it has been widely accepted that organizational learning and knowledge acquisition play major roles and deeply affect the internationalization behavior of firms (Forsgren, 2002; Johanson & Vahlne, 1977, 1990), the empirical research on factors that influence the investment behavior of firms still require further investigation (Hadjikhani, 1997). Particularly, most of the international business literature in the past decades has focused on experiential learning through the ongoing activities, as tools to acquire foreign market knowledge and explore its impact on internationalization behavior (e.g., Reuber & Fischer, 1997; Casillas & Moreno-Menéndez, 2014; Eriksson et al., 1997, 2000).

Johanson and Vahlne (2009) argued that the behavior of firms has changed and the concept of experiential learning cannot fully explain their internationalization activities. The results of recent empirical studies in both large and small firms appear to contradict the traditional internationalization model. Some firms appear to leapfrog stages in the establishment chain or compress the internationalization process into fewer stages (Hedlund & Kverneland, 1985; Coviello & Munro, 1997; Turnbull, 1987; Prasad, 1999). Many firms start to internationalize soon after founding (Oviatt &

McDougall, 1994), and others proceed with a rapid internationalization process (Oviatt & McDougall, 1994; Zahra, Ireland, & Hitt, 2000).

Forsgren (2002) argued that these behavioral changes are attributable to other kinds of knowledge and learning. Prior studies have documented that firms can acquire knowledge from other forms of organizational learning, which require shorter time spans than experiential learning, for example, business relationships (Kraatz, 1998; Phelps, Heidl, & Wadhwa, 2012), imitative learning (Haveman, 1993; Henrich, 2004), hiring people with the necessary knowledge (Barkema & Vermeulen, 1998), and a focus search, that is, organizational search (Forsgren, 2002). Organizational search is a learning process that facilitates firms in acquiring information that increases their awareness of potential alternatives, such as expanding business to overseas markets (Huber, 1991) and influences the speed of internationalization process (Casillas & Moreno-Menéndez, 2014). Firms can search for a set of possible solutions through information acquisition and processing; search is a form of non-experiential learning, which could accelerate the speed of internationalization process (Forsgren, 2002; Huber, 1991; Johanson & Vahlne, 2009)

2.2 Speed of the internationalization process

Internationalization is a dynamic phenomenon (Welch & Luostarinen, 1988) and a multi-dimensional process (Melin, 1992; Oviatt & McDougall, 1997; Zahra & George, 2002; Casillas & Acedo, 2013). However, many studies in internationalization process only concentrate on the relationship between strategy, structure, and performance (i.e., Tallman & Fladmoe-Lindquist, 2002; Habib & Victor, 1991). Few studies consider the process dimension, which takes internationalization as an evolving time-series event (Melin, 1992; Chetty, Johanson, & Martín, 2014; Hilmersson et al., 2017). Recent reviews on the concept of the speed in the internationalization process have argued for further empirical research, which assess internationalization as a development process through time (Casillas & Acedo, 2013; Chetty, Johanson, & Martín, 2014). Time is an essential dimension; therefore, it is important to examine internationalization as a time-based behavior (Coviello & Jones, 2004).

In studying changes in the internationalization process over time, researchers must distinguish between “the time lag between the founding of a firm and its initiation of international operations (Jones, 1999; Jones & Coviello, 2005) and the speed of a firm’s subsequent international growth” (Autio, Sapienza & Almeida, 2000, p. 909). Most research on international entrepreneurship or born globals, recognize speed as the time elapsing between a firm’s foundation and its first international activity, but analyzing post-entry speed or the pace of a company’s ongoing internationalization expansion after its first international activity remains under investigation (Eden, 2009; Prashantham & Young, 2011; Coviello & Tanev, 2017)

Although the development of internationalization process over time can be measured in terms of extent, speed, and scope (Zahra & George, 2002), most studies over the past decades have focused more on the extent and scope of the internationalization process (Casillas & Acedo, 2013). The concept of speed as a time dimension was not included in the literature until the mid-1990s, following the emergence of international entrepreneurship research (Jones & Coviello 2005; Oviatt & McDougall, 1994; Casillas & Acedo, 2013). Most research on speed, measures it as the time it takes a firm to begin internationalization or the number of foreign subsidiaries divided by number of years since the firm’s first foreign expansion; however, these studies do not consider speed as a multidimensional and formative construct (Chetty et al., 2014). Although several studies (Casillas & Acedo, 2013; Zucchella, Palamara, & Denicolai, 2007; Chetty et al., 2014) suggest that the speed of internationalization is a multidimensional concept, few present empirical evidence and systematic examinations of different dimensions of time in the speed of internationalization (Hilmerston et al., 2017)

2.3 Role of global competition and speed of internationalization

The literature on strategic management emphasizes that a firm must consider its competitor’s behavior when formulating and implementing strategies (Salomon & Martin, 2008). Rivalry is defined as the exchange of competitive moves between firms in a market, and the intensity of rivalry is recognized as a force that drives competition in a specific industry (Porter, 2008). Firms in highly competitive industries are expected to initiate a specific competitive move, such as introducing a new

product or entering new markets, to acquire its rivals' market shares (Chen & Hambrick, 1995; Chen & MacMillan, 1992). Firms in such industries attempt to become first movers to capture some advantages, which arise from the following aspects. (1) A sustainable leadership position in technology, (2) control over scarce assets, (3) priority to attract customers with relatively low buyers' switching cost, and (4) priority to set a brand position in the buyer's mind and gain brand royalty (Lieberman & Montgomery, 1988).

Although late movers may lose first-mover advantages, they can undertake competitive responses to protect market shares (Chen, 1996). Competition will foster interaction, for example, offensive action, and defensive response between firms in a market (Chen & MacMillan, 1992). Hypercompetition is "an environment characterized by intense and rapid competitive moves, in which competitors must move quickly to build advantage and erode the advantage of their rivals' (D'Aveni, 1994, p. 217–218). Therefore, in intensely competitive industries, where firms are closely interdependent, countermoves can occur rapidly (D'Aveni, 1994; D'Aveni & Gunther, 1995). For the occurrence of hypercompetition in an industry, over time, superior economic performance grows shorter and competitive advantage becomes harder to sustain. Wiggins and Ruefli (2005) found in their empirical study that hypercompetitive forces affected firms' ability to sustain superior performance. Firms must respond flexibly and rapidly to hypercompetition to create sustained competitive advantages (Gimeno & Woo, 1996; Hanssen-Bauer & Snow, 1996). Salomon and Martin (2008) found in their empirical study of the global semiconductor industry that firms that compete with rivals possessing superior technology would take less time to build new manufacturing facilities. In the international business literature, Wiersema and Bowen (2008) provided empirical evidence that industry globalization affects the degree and scope of international diversification by US manufacturing firms, because the globalization of markets and industries fundamentally changed the competitive conditions of firms.

Based on strategic management theory, the rapid internationalization process is possibly contingent on a firm's external competitive environment, which might influence the speed at which a

firm should allocate their resources to foreign markets (Chang & Rhee, 2011). Global competition is becoming more important for strategic management and researchers believe that “industries are involved in some form of global competition” (Bettis, 1991, p. 316). When global competition intensifies, firms could be under pressure to expand to overseas market more rapidly. Therefore, firms in a global industry or under high pressures of globalization are expected to reach global scales quickly through a rapid internationalization strategy to achieve competitive advantage (Chang & Rhee, 2011). Markets in a global industry are integrated across national boundaries and competition among firms is worldwide (Wiersema & Bowen, 2008). If firms operate in a global industry, they must try to expand their business to overseas markets, because a firm’s competitive position in one country is affected by its position in other countries, as each market is linked on one global platform (Porter, 1986, 1990).

2.4 Behavioral theory of the firm

Table 2.1: Evolution of the literature on the behavioral theory of the firm

1938	Harvard University press publishes “The Functions of the Executive” (Barnard, C. I.)
	<i>The book presents the theory of cooperation and organization, and a study of operational functions and methods of executives in formal organizations</i>
1947	Simon and Schuster publish a book, “Administrative Behavior” (Simon, H.)
	<i>The book provides the basis for the study of organizational behavior, decision-making process, and management of people</i>
1950	The Ford Foundation provides a total of \$3,000,000 to universities in the U.S. for effective research development in the field of behavioral science
1952	The Ford Foundation establishes a Behavioral Sciences Division and appropriates a total of \$7,201,300 for divisional programs and projects
1954	The Center for Advanced Study in the Behavioral Sciences is established at Stanford University
1958	Wiley publishes a book “Organizations” (March, J. G., & Simon, H.)
	<i>The book offers insight on all aspects of organizational management through deep discussion of organization theory</i>

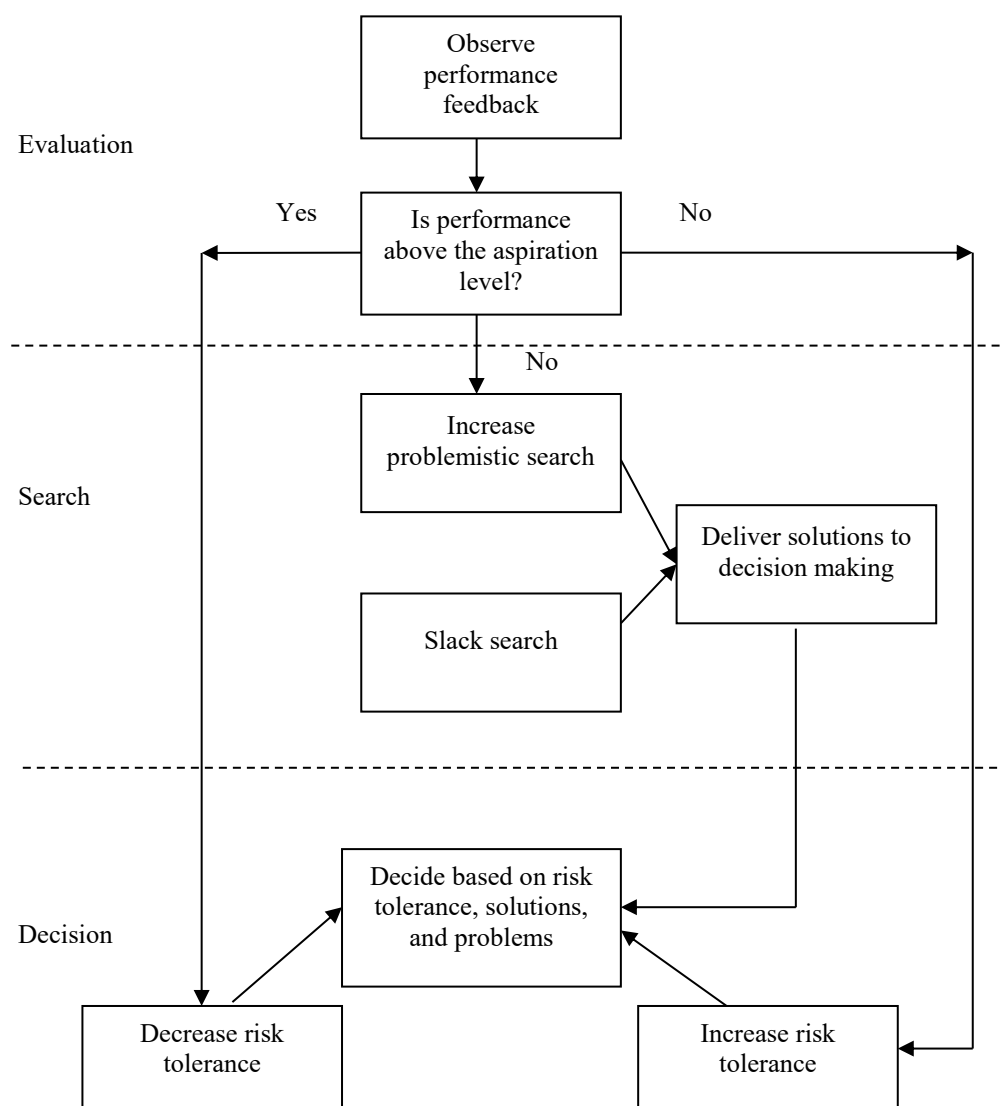
1963	Prentice Hall publishes “A Behavioral Theory of the Firm” (Cyert, R. M., & March, J. G.)
	<i>The book provides the foundation of a study of behavioral theory of the firm, investigating the effect of characteristics of business firms as organizations on important business decisions</i>
1964	Review of A Behavioral Theory of the Firm, The Canadian Journal of Economics and Political Science (Sawyer, J.)
1964	Review of A Behavioral Theory of the Firm, Southern Economic Journal (Colberg, M.)
1964	Review of A Behavioral Theory of the Firm, The American Economic Review (Winter, S.G.)
1964	Review of A Behavioral Theory of the Firm, Econometrica (Day, R. H.)
1965	Review of A Behavioral Theory of the Firm, Journal of the American Statistical Association (Shubik, M.)
1966	Review: A Behavioral Theory of the Firm by Richard M. Cyert and James G. March, The American Political Science Review (Browning, R. P.)
1966	First issue of Journal of Organizational Behavior and Human Decision Processes Journal is published
1980	First issue of Journal of Organizational Behavior is published
1980	First issue of Journal of Economic Behavior & Organization is published
1990	First issue of Organization Science Journal is published
2005	First issue of Management and Organization Review is published
2005	Center for Behavioral Decision Research established at Carnegie Mellon University

Source: Augier & Prietula, 2007

The behavioral theory of the firm was primarily developed by Cyert and March (1963) and had its roots in the Functions of the Executive (Barnard, 1938), Administrative Behavior (Simon, 1947) and Organizations (March & Simon, 1958). Cyert and March (1963) articulated a set of theoretical concepts at the cognitive level to explain the process of making business decisions and provided detailed observations on organizational behavior when making decisions.

From the perspective of the behavioral theory of the firm, organizational change is the result of the combination between organizational search and risk-tolerance based decision-making process (Greve, 2003b). Integrating the proposition derived from the behavioral theory of the firm (Cyert & March, 1963, 1992) and the theory of decision making (March, 1991), Greve (2003b) summarized that organizational change is an outcome of the decision-making process against the flow of solution resulting from search (See figure 2.1).

Figure 2.1: Performance evaluation, search, and decision making



Source: Greve, 2003b, p. 60

In the literature on decision-making, firms can find several alternatives from organizational search; however, choosing an alternative is not about maximization of utility but about satisfaction. Although most literature in neoclassical economic theory asserts that profit maximization is the main driving force of firms, behaviorists such as Simon (1957) and Cyert and March (1963) argued that a theoretical optimal performance is difficult to identify; firms should instead operate satisfactorily or achieve aspiration levels rather than merely maximize profit. Therefore, aspiration levels serve as an appropriate goal because they are objective and measurable, and firms can choose alternatives that help them achieve their aspiration levels. As Simon (1996, p. 30) concludes, “aspiration levels provide a computation mechanism for satisficing. An alternative satisfices if it meets aspirations along all dimensions. If no such alternative is found, search is undertaken for new alternatives.”

Simon (1957, p. 198) suggested the concept of a bounded rationality stating, “the capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behavior in the real world, or even for a reasonable approximation to such objective rationality.” Therefore, the concept of bounded rationality suggests that managers are boundedly rational because they have limited information about possible alternatives. Managers must search for relative information or the alternatives themselves because they do not naturally flow to them (Simon, 1947; Gavetti, Greve, Levinthal, & Ocasio, 2012). The search for information or alternatives can be driven by the aspiration level, which is perceived as a goal that firms would like to reach or surpass (Simon, 1947). An aspiration level is a target deemed satisfactory. Managers will perform searches when organizational performance is lower than the aspiration level and continue searching for solutions until the organization achieves or surpasses the aspiration (Simon, 1982; March & Simon, 1958).

Greve (2003b) has divided search into three types, according to its source: (1) slack search, (2) institutionalized search, and (3) problemistic search. Unlike institutionalized search, which is planned by responsible departments devoted to search activities, such as research and development, market research and strategic planning, slack search, and problemistic search, are unplanned. Slack search and

problemistic search could be induced by specific factors, that is, extra time and resources and organizational problems.

Considering changes in the speed of internationalization is a form of organizational change, which requires a certain degree of risk taking. Negative performance feedback and excess slack might trigger firms to begin searching for international opportunities as an alternative to improving performance or using abundant resources. The negative performance relative to aspiration level and abundant slack may increase the risk tolerance of decision makers to the level that they execute internationalization strategies. This perspective is consistent with the research work by Forsgren (2002), which indicated that organizational search is a learning process that could accelerate the internationalization process. Aharoni (1966) also argued that FDI primarily begins with the emergence of driving forces for the firms to look abroad, followed by investigation of possibility, and finally, the conclusion of investment.

Organizational search has two key stimuli: problems and slack (Levinthal & March, 1981; Greve, 2003a, 2003b). Any search induced by a problem is called a “*problemistic search*,” which is a result of the firm identifying alternatives to current activities that resolve performance shortfalls. Problemistic search would be triggered when organizational performance is below aspiration level because firms would search for ways to raise performance and continue searching as long as the problem is not solved (Cyert & March, 1963; March & Shapira, 1987; Manns & March, 1978). The attainment discrepancy between performance and aspiration level serves as function of performance feedback (Lant, 1992; Lim & McCann, 2013)

If a manager expects the firm’s performance to fall below the aspiration level, he/she is likely to search for solutions that can raise expected performance to the aspiration level (Bromiley, 1991). Low performance initially triggers local search to improve performance by exploiting current managerial practices to achieve production efficiency and strategic consistency. Persistent problems cause expansion of search and could lead to exploratory search (Cyert & March, 1963; Grinyer & McKiernan, 1990; Katila & Ahuja, 2002), which engages in riskier behaviors with more uncertain

outcomes (e.g., business reorientation, new product launch, new investment, M&A, international market expansion, R&D, and liquidation).

Search induced by abundant slack is called “*slack search*” (Greve, 2003b). Organizational slack is defined as the pool of resources in an organization in excess of the minimum necessary to produce a given level of organizational output (Nohria & Gulati, 1996). Slack search occurs when firms possess excess resources that allow for experimentation. It helps firms identify and pursue new investment opportunities (Levinthal & March, 1981). Excess resources allow firms to engage in slack search and find business solutions that would not necessarily be approved in the face of financial scarcity (Cyert & March, 1963, p. 279).

Problemistic and slack search result in more information on alternatives; however, it is not a direct cause of a firm’s decision to internationalize. A firm’s decision to internationalize also depends on its risk preference (Figueira-de-Lemos et al., 2011). Organizational decision is the execution of a choice among a set of alternatives based on available information (March, 1991). Burgelman (1991) explained that strategic organizational change is the result of a decision-making process among strategic change, adaptation, organizational stability, and risk aversion. Greater risk taking, given performance below aspiration level and/or abundant slack, have been found in studies on organizational change and risk-taking behavior of the firm (see Table 2.2). Firms unnecessarily have to undertake strategic change. They may choose not to expand their business to overseas markets, if the expected risk is higher than the tolerable level. Performance feedback from performance below aspiration level and excess slack not only induces firms to search for alternatives or solutions, but also drives them to undertake risky actions, such as internationalizing operations.

Table 2.2: Studies on the effects of performance feedback and slack on risk preferences and organizational changes

Authors	Type of organizational change	Independent variables		Dependent variables	Context of the study		Research tools	Empirical findings
		Performance	Slack		Sample group	Time period		
Singh (1986)	Risk preference	Negative	Unabsorbed slack: positive Absorbed slack: none	Orientation toward risk	64 medium to large U.S. and Canadian companies	1973–1975	Questionnaire (regression analysis)	Poor performance is related to high risk taking in organizational decisions and good performance is related to low risk taking. Risk taking is increased by unabsorbed slack, but not by absorbed slack.
Miller & Bromiley (1990)	Risk preference	High performers: negative Low performers: positive	N/A	Income stream risk, stock return risk, and strategic risk	493 U.S. companies	1978–1982 and 1983–1987	Public information (regression analysis)	Deterioration in performance increased risk taking for high performers but decreased it for low performers.
Bromiley (1991)	Risk preference	Negative	Negative	Risk preference (variance in a firm's return on asset)	288 U.S. manufacturing companies	1976–1987	Public information (regression analysis)	Low performance and lack of slack drive risk taking, but the risks taken result in poor returns.

Lant & Milliken (1992)	Organizational reorientation	Negative	N/A	Organizational reorientation	Furniture and computer software public companies in the U.S.	1980–1986	Public information (regression analysis)	Poor past performance, environmental awareness, heterogeneity of top management team, and CEO turnover increased the likelihood of reorientation.
Bolton (1993)	Adoption of organizational innovation	Negative	N/A	Adoption of organizational innovation	74 U.S. high technology companies	1982–1985	Public information and interview (LOGIT analysis)	Substandard performance stimulated early joiners of R&D consortia. More risk-averse, high performing firms were found to be late adopters of R&D consortia.
Wiseman & Bromiley (1996)	Risk preference	Positive	Potential slack: positive Absorbed slack: negative	Risk (income stream uncertainty)	344 low-performing companies in 19 manufacturing industries in U.S.	1975–1988	Public information (regression analysis)	Lower performance caused less risk taking in a sample of declining firms. Potential slack positively influences risk, whereas recoverable slack and the difference between performance aspirations and expectations negatively influence risk.
Greve (1998)	Adoption of a satellite radio format	Negative	N/A	Changes in format or production, by risk level	160 U.S. radio markets	1984–1992	Public information (LOGIT analysis)	The probability of radio format change clearly declines as the performance relative to the historical aspiration level increases, and it declines more rapidly above the aspiration level.

Ketchen & Palmer (1999)	Change in services	Negative	N/A	Organizational action (change in products and services)	66 hospitals in the U.S.	1986–1990	Interview and Survey (regression analysis)	Low performance increased organizational risk taking. Poor performing organizations took an aggressive approach to adding new, and deleting existing, high technologies.
Palmer & Wiseman (1999)	Risk preference	Negative	Negative	Managerial risk taking and organizational risk (income stream uncertainty)	235 companies in 64 industries in the U.S.	1984–1991	Public information (structural Equation Modeling)	As performance deteriorates, risk taking is encouraged. Slack exhibited the expected negative influence on managerial risk taking.
Kraatz & Zajac (2001)	Strategic change	N/A	Negative	College's strategic change	422 American liberal arts colleges	1971–1986	Government survey (regression analysis)	Organizations possessing greater stocks of historically valuable resources were much less likely to engage in adaptive strategic change; however, this resource-driven disinclination towards change tended to have a benign or even beneficial effect on performance.
Geiger & Cashen (2002)	Innovations	N/A	Available and recoverable slack: inverted U-shape Potential slack: positive	R&D intensity	228 U.S. Fortune 500 companies	1982–1992	Public information (regression analysis)	Internal slack (available and recoverable) has an inverted U-shaped relationship with innovation, while external slack (potential) has a positive linear relationship with innovation.

Greve (2003a)	R&D investment	Negative	Absorbed slack: positive Unabsorbed and potential slack: none	R&D intensity and innovation launches	146 innovations in the Japanese shipbuilding industry	1971–1996	Public information (regression analysis)	R&D expenses increase when low performance causes “problemistic search” and when excess resources cause “slack search.” Innovations generated by search launch when low performance results in high risk.
Miller & Chen (2004)	Risk preference	Negative	N/A	Risk (standard deviation of ROA)	U.S. manufacturing companies (SIC 2000-3999)	1991–2000	Public information (OLS regression)	Decline in performance below aspiration level increases organizational risk in all (low, medium, and high) ranges of performance.
Baum et al. (2005)	Change in network	U-shape	Positive	Change in ties (network)	Public offering in Canada between 1952-1990	1952–1990	Public information (random-effects GLS models)	Banks experiencing market-share performance above and below historical and social aspirations engaged in a higher proportion of non-local syndicate ties, demonstrating risk taking in selecting partners. Those experiencing performance near market-share aspiration levels were more likely to reproduce their prior relationships.
Audia & Greve (2006)	Capacity expansion	Small firms: positive Large firms: negative	N/A	Factory expansion	Japanese shipbuilding companies	1974–1995	Public information (fixed-effects models)	Performance below the aspiration level reduces risk taking in small firms, but either does not affect risk taking or increases risk taking in large firms.

Greve (2007)	Innovations	Negative	Unabsorbed slack: positive Absorbed slack: none	Exploration or exploitation innovation	Japanese shipbuilding companies	1972–2000	Public information (Gompertz model)	Reductions of performance significantly increase rates of both exploration and exploitation innovation. Unabsorbed (financial) slack affected exploitation innovations consistent with the proposition that risk taking is increased by unabsorbed slack, but not by absorbed slack.
Chen & Miller (2007)	R&D investment	Negative	Positive	R&D intensity	U.S. manufacturing companies (SIC 2000-3999)	1980–2001	Public information (fixed-effects panel regression models)	R&D search intensity rises as performance falls below aspirations and slack is positively related to search. Proximity to bankruptcy reduces R&D search.
Harris & Bromiley (2007)	Financial misrepresentation	Negative	N/A	Financial restatements prompted by accounting irregularities	919 financial restatement events in the U.S.	1997–2002	Public information (conditional logit model)	Top management incentive compensation and poor organizational performance relative to aspirations increase the likelihood of financial misrepresentation.
Desai (2008)	Capacity expansion	Negative	N/A	Capacity expansions and contractions of U.S. railroad companies	U.S. railroad companies	1978–2003	Public information (Fixed-Effects Models)	Poor performance leads to increased risk taking in experienced and legitimate firms. However, the effect of firm age is weak.

Iyer & Miller (2008)	Merger & Acquisition	Underperforming firms: positive Performing firms: negative	Positive	Acquisition rate	U.S. manufacturing companies	1980–2000	Public information (event history model)	Acquisition activity increases as performance improves among firms performing below aspirations but falls among firms performing above aspirations. Slack has a positive relation with acquisitions, and financial distress inhibits acquisition.
Labianca, Fairbank, Andreovski, & Parzen (2009)	Strategic change	Negative	N/A	Organizational change	131 AACSB accredited business schools	2004	Survey (weighted least squares estimation)	When relative performance is poorer than its competitors, these organizations plan more extensive and more radical changes.
Alessandri & Pattit (2014)	R&D investment	Positive	Available slack: insignificant Recoverable slack: positive		573 U.S. public manufacturing companies	2001–2007	Public information (Huber–White sandwich estimation)	Stock option pay complements the effects of organizational slack to increase R&D investment. Higher levels of liquidity provide resources to invest in R&D.

Source: Compiled by the author

Internationalization is considered a risk-taking behavior because its consequences are less well known than the consequences of staying domestic (Knight, 1921); therefore, firms will not initiate internationalization processes if the expected risk from internationalization is higher than their tolerable level.

Based on behavioral theory, firms normally avoid risk and uncertainty, and have heterogeneous risk preferences (March & Shapira, 1992; March, 1988). Prior studies (March & Shapira, 1992; Singh, 1986; Bromiley, 1991) have documented that the risk-taking behavior of firms is influenced by threats to survival and slack. Threats to survival occur when the expected performance of a firm is lower than its aspiration level. More specifically, a firm becomes risk averse when its performance is above a certain aspiration level and becomes risk seeking when its performance is below a certain aspiration level (e.g., Singh, 1986; Lant & Montgomery, 1987; Bromiley, 1991; Bazerman, 1984; Northcraft & Neale, 1986; Whyte, 1986). This behavior could be explained effectively by the prospect theory developed by Kahneman and Tversky (1979), which suggested that the outcome is evaluated as gain or loss relative to a neutral reference point and decision-makers will tend to avoid risk with regard to gains and seek risk with regard to losses (Bazerman, 1984)

March (1981) has observed that firms facing bad times are more likely to adopt riskier strategies. Performance determines the likelihood of different types of organizational change, because firms tend to engage in changes when they receive unfavorable performance feedback or negative performance relative to their aspiration levels (e.g., March, 1988; Miller & Chen, 1994; Greve & Teh, 2018). Managers view performance below their aspiration levels as loss making, and are willing to take risks to improve (Kahneman & Tversky, 1979; Miller & Chen, 2004). Thus, performance below aspiration levels is more likely to increase managerial tolerance for risk and lead to organizational change. The probability of organizational change declines when performance relative to aspiration level increases (Greve, 1998).

Slack also induces a firm's risk-taking behavior. Slack provides an essential buffer to firms' activities and increases risk taking (Cyert & March, 1963; Thompson, 1967). Firms use slack for smooth

investment, staffing, and buffer their technological cores from short-term random fluctuations in the environment (Bromiley, 1991). Prior empirical studies (e.g., Singh, 1986; Wiseman & Bromiley, 1996) have found that the degree of slack has a positive impact on risk taking behavior of firms. Because slack is considered a resource in excess of that required to run normal efficient operations, it enhances a firm's capacity to absorb environmental turbulence (Bourgeois, 1981). In addition, slack provides a buffer against downside risk and allows firms to experiment with new strategies (Singh, 1986).

Many scholars have empirically studied the application of the behavioral theory to the innovation process of firms, finding that performance feedback and slack affect innovation (Greve, 2003a; Antonelli, 1989; Hundley, Jacobson & Park, 1996; Kamien & Schwartz, 1982; Mone et al., 1998). Therefore, performance feedback and slack are expected to influence the internationalization process too because foreign entry and expansion have been recognized as an innovation-type behavior (Reid, 1981; Simmonds & Smith, 1968; Bilkey & Tesar, 1977). Internationalization is an innovative action because it induces firms to develop new dimensions and achieve a major breakthrough in the normal course of events (Aharoni, 1966). The steps of internationalization process are analogous to that of an innovation adoption process (Roger, 2010; Bilkey & Tesar, 1977; Cavusgil, 1980; Reid, 1981; Lee & Brasch, 1978). Simmonds and Smith (1968) also argued that entry into the foreign market is as much an innovation as the adoption of a new production process.

Although many international business scholars have applied the concept of performance feedback and slack to conduct extensive research on internationalization process from a behavioral perspective, very few studies integrate both concepts (see Table 2.3). Moreover, the results of these extensive studies do not show uniform results. Using data of Japanese firms, Jung and Bansal (2009) found an inverted U-shaped relationship between performance relative to historical aspirations (past performance of firms as a target) and the degree of internationalization. However, the relationship between performance relative to social aspirations (average performance of other firms in the same industry as a target) and the degree of internationalization are conversely positive. In contrast, using the data of Taiwanese firms, Lin (2014) concluded that a rapid pace of internationalization increases as performance falls below both social and historical aspirations.

Table 2.3: Studies on the effects of performance feedback and slack on internationalization process

Authors	Independent variables		Context of the study		Research tools	Dependent variables	Empirical findings
	Performance	Slack	Sample group	Time period			
Wennberg & Holmquist (2008)	Social aspirations: negative	N/A	860 small Swedish companies	1991–1995	INTERSTRATOS Survey (random effects logit models)	Problematic search activities, asking “Have you searched for internationalization opportunities in the past twelve months?” Degree of internationalization activities measured by nine dichotomous questions on new types of international activities initiated during the past twelve months	Performance relative to aspiration levels—as indicated by the behavioral theory of the firm—acts as a key determinant of increased international entrepreneurship.
Jung & Bansal (2009)	Historical aspirations: inverted U shape Social aspirations: positive	Available slack: positive Absorbed and potential slack: none	701 Japanese companies	1993–1998	Public information (generalized least squares (GLS) random effects model)	Degree of internationalization (number of countries invested)	Inverted-U shaped relationship between a firm's relative performance and its degree of internationalization using its historical performance target. As compared to the industry target, relative performance showed a positive impact on a firm's internationalization.

Lin, Cheng, & Liu (2009)	N/A	High-discretion slack: U-curve Low-discretion slack: positive	179 high-technology publicly listed companies in Taiwan	2000–2005	Public information (GLS random effects model)	Degree of internationalization (foreign sales, foreign assets, invested countries)	Found a U-shaped relationship between high-discretion organizational slack and internationalization of firms. In contrast, low-discretion organizational slack presents a positive linear relationship with the internationalization of firms.
Chang, Jaw, & Chiu (2012)	N/A	Available slack and recoverable slack: positive Potential slack: mixed and insignificant Debt-to-sales: negative Interest coverage: positive	International new ventures in the US	1980–2012	Public information (regression analysis)	Internationalization speed	Absorbed and unabsorbed slack had a positive effect on internationalization speed, suggesting positive early internationalization. Firm age positively moderated the relationship between unabsorbed slack and internationalization speed, and negatively moderated the relationship between absorbed slack and internationalization speed.
Lin (2014)	Social and historical aspirations: negative	Positive	442 publicly listed companies in Taiwan	2002–2008	Public information (GLS fixed effects model)	Internationalization pace, scope, and rhythm	Firms with high organizational slack performing below aspirations are more likely to exhibit (1) rapid pace, (2) wider scope, and (3) irregular rhythm in their internationalization processes. Performance below the social and historical aspirations raises a firm's propensity for a rapid pace, a wider scope, and an irregular rhythm in the internationalization process.

Source: Compiled by the author

2.5 Foreign investment location choice and psychic distance

In recent years, many studies in international business have examined the foreign-location choices of firms (Kim & Aguilera, 2016). According to the concept of eclectic paradigm of international production developed by Dunning (1988), international production is a function of ownership-specific (O) assets of firms, location-specific (L) assets of countries, and the extent to which firms perceive that they can better organize and coordinate these O and L assets internally through internalization (I). The locational choice of firms, where to invest, is hence, a critical strategic variable. Michael Porter (1998) stated, “Anything that can be moved or sourced from a distance is no longer a competitive advantage, and the true advantages today are things that are sticky, that is not easily movable.” Therefore, the location of a firm’s international activities is an important determinant that affects the global competitiveness of a firm, because the distribution of location-bound resources, capabilities, and institutions is assumed to be uneven (Dunning & Lundan, 2008).

In early studies on the role of location in international business, locational choices and locational effects were based on the theory of cost minimization, in which the principal attributes of locations were the cost of production, that is, land, labor, capital, and energy (Porter, 1994). However, recently, the world has become a flatter place (Friedman, 2005). Lower costs of transportation and communication allow the sourcing of standardized intermediate product inputs from anywhere the costs of production are lowest; therefore, geographical proximity to the sources of cheap supply input may not remain a source of competitive advantage for firms (Cantwell, 2009). Therefore, moving to distant locations merely to find low-cost inputs has become less important, and other factors now drive firms to select specific locations for investment.

Prior studies (Dunning, 1988; Rivoli & Salorio, 1996) on foreign location choices have found that firms consider location-specific opportunities and risk tolerance. More specifically, location choices depend on their attitudes toward risk, and firms pick different locations and choose to invest at different times because they are heterogeneous toward risk.

Psychic distance has long been regarded as a factor that determines foreign entry-mode choices to minimize the risk of foreign market entry (Dunning, 1988; Johanson & Vahlne, 1977; Davidson, 1980; Anderson & Gatignon, 1986). Evans and Mavondo (2002) suggested that psychically distant markets are likely to be perceived with a higher level of risk than psychically close markets. The concept of psychic distance can be used to explain the selection criterion for foreign country selection during internationalization process and set business strategies for specific markets, as psychic distance indicates the degree of similarity or dissimilarity to the home market in terms of language, consumer behavior, cultural standards, legal framework, or purchasing power renders some foreign markets more attractive than others (Stöttinger & Schlegelmich, 1998). Large informal institutional distance tends to increase the challenges of doing business in the host country (Xu & Shenkar, 2002) because it prevents information and knowledge from flowing between countries; thereby, increasing the cost of doing business across borders (Berry et al., 2010).

The literature on internationalization processes has provided evidence to support the proposition that companies perform better in a foreign market that is psychically close to their home countries because the similarity makes it easier to manage operations (Cavusgil, 1980; Nordstrom & Vahlne, 1994). Evans, Treadgold and Mavondo (2000) suggested that entering psychically close foreign markets could reduce the uncertainty of being foreigners.

By definition, psychic distance refers to the perceived distance between host and home countries and is measured by the sum of factors preventing the flow of information from and to the market (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). However, the definition of psychic distance is not clearly set. Stottinger and Schlegelmilch (1998) provided another definition, which states that psychic distance is a degree of similarity or dissimilarity between host and home countries, which makes one foreign market more attractive than another market. It has been conceptualized as a measure that captures the sum of factors preventing the flow of information between markets (Johanson & Vahlne, 1977). These factors include, for example, differences in language, education, business practices, culture, political stability, and development. The proximity of psychic

distance indicates the ease or difficulty of conducting business operations in a specific location. Firms are likely to perform better when psychologically close to their home countries because they have fewer psychological barriers to cross (Vahlne & Nordstrom, 1992). Empirical evidence from European and Asian work units of one multinational firm showed that performance in a unit where management practices are congruent with national culture is higher than it is in others (Newman & Nollen, 1996).

Although many scholars have studied psychic distance, the most recognized work is the study of internationalization process of Nordic multinational firms by scholars from the University of Uppsala (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977). Johanson and Wiedersheim-Paul (1975) found that firms expand businesses into international markets in a series of small and cumulative steps over time, starting from foreign markets that are close in terms of psychic distance, and gradually expanding their businesses in successive stages to markets with greater psychic distance.

Many studies have attempted to test the impact of psychic distance on internationalization. Kogut and Singh (1988) found that cultural distance between countries influenced the internationalization pattern, that is, entry mode choice. Dow (2000) presented empirical evidence that psychic distance is a significant predictor of international market selection by Australian firms, especially significant in the first decision on market entry. Based on a case study of Hong Kong multinationals by Child, Ng, and Wong (2002), three out of five cases tended to locate their first overseas investment in South and Southeast Asia, where the psychic distance between Hong Kong and the foreign location is relatively low, which provide empirical support to the psychic distance theory.

Psychic distance influences the risk of specific location perceived by managers, and hence, influences the degree of commitment to specific foreign markets. Empirical evidence supports that psychic distance reduces the likelihood of using high-commitment entry strategies to foreign markets (Quer, Claver, & Rienda, 2007). Evans, Bridson, Byrom, and Medway (2008) asserted that cultural difference impedes the expansion of firms into new foreign markets. Therefore, a psychologically close location is perceived as less risky than locations more psychologically distant (Alexander, Rhodes, & Myers, 2007; Bartlett & Ghoshal, 2002; Palich & Gomez-Mejia, 1999).

In the field of international joint venture (IJV), studies find that cultural differences create ambiguities and conflicts between partner firms in an IJV, which could lead to the dissolution of the partnership (Barkema et al., 1996). A specific dimension of cultural distance was found to have greater impact on the survival rate of IJV than others, that is, uncertainty avoidance and long-term orientation have higher negative effect on IJV survival than masculinity (Barkema & Vermeulen, 1997). Sim and Ali (2000) have revealed that the stability of an IJV is largely determined by the cooperation and psychic distance between partners, host, and home countries.

2.6 Summary of literature review

This chapter has reviewed key studies that are relevant to firms' managerial decision on changing the speed of internationalization and on selecting specific foreign locations for investment. The relevant literature reviewed is as follows: (1) internationalization process and organizational learning, (2) speed of internationalization, (3) role of global competition on the speed of internationalization, and (4) behavioral theory of the firm.

This dissertation is primarily based on two main theories: (1) internationalization process theory and (2) behavioral theory of the firm. The traditional theory of internationalization process suggests that firms gradually increase their involvement in foreign markets upon accumulating foreign market knowledge and tend to enter markets with successively greater psychic distance (Johanson & Vahlne, 1977, 1990). The gradual pattern of a firm's internationalization process can be explained as follows: (1) lack of experiential knowledge about international markets and (2) perceived risk associated with new market entry is higher than a tolerable level. Knowledge acquired through experience takes time to develop and cannot explain the rapid internationalization of firms. Forsgren (2002) suggests that proactive learning could explain the rapid internationalization process, that is, a focus search. Firms may acquire foreign market knowledge through a search process, which is quicker and does not require them to gain experience in their own activities. Taking this line of argument, this dissertation applies the concept of problemistic search and slack search to investigate factors that underlie a firm's decision to change its speed of internationalization and select a location for investment with great psychic

distance. Based on the behavioral theory of the firm (Cyert & March, 1963), a problemistic search is triggered by negative performance feedback and a slack search is triggered by excessive organizational slack. The negative performance feedback and excessive slack not only trigger the search process but also increase a firm's level of risk tolerance, which is important when making decisions to enter successive foreign markets. Even when perceived risks are high, firms may rapidly internationalize and select investment locations at great psychic distance for investment if they can tolerate higher levels of risk and uncertainties.

Reviewing the literature on global competition, I recognized the existence of first-mover advantages in highly competitive industries (Chang & Rhee, 2011). Intra-industry rivalry has long been studied as a determinant of firm performance (Porter, 2008; Nickell, 1996; Takata, 2016). Empirical studies on the effect of global competition found evidence that industry globalization influences the strategy of MNEs (Buckley & Ghauri, 2004) and the degree and scope of international diversification (Wiersema & Bowen, 2008). As industry-specific factors influence the behavior and performance of firms in that industry (Spanos, Zaralis, & Lioukas, 2004), the intensity of global competition in each industry is expected to influence the change in speed of internationalization.

The multidimensionality of the speed of internationalization is another recognized research gap. Reviewing the literature on the speed of internationalization, this dissertation addressed the necessity to empirically validate the multidimensional concept on the speed of internationalization process. Therefore, the speed of internationalization is operationalized in three dimensions: (1) speed of change in the degree of internationalization, (2) speed of change in the commitment to foreign markets, and (3) speed of change in the breadth of international markets.

The literature review has revealed a research gap in the internationalization process that requires further investigation in globally competitive environments to understand a firm's internal factors (i.e., performance feedback and organizational slack) in driving its decision to increase the speed of internationalization and select a psychologically distant location. In the next chapter, I will elaborate the conceptual framework and develop hypotheses for empirical analyses.

CHAPTER 3

THEORETICAL MODEL AND HYPOTHESES

3.1 Conceptual framework

The behavioral theory of the firm (Cyert & March, 1963) provides a good framework for the analysis of factors that drive firms to pursue risky organizational changes. Greve (2003b) has documented that organizational search generates alternatives for more effective ways of working or gives solutions to problems in current activities. Search is a precursor to organizational change. The solutions it generates transform into organizational change through the decision-making process. However, the implementation of the solution depends on the risk preferences of decision makers (i.e., managers) and the risk perception of the outcomes of solutions (Baird & Thomas, 1985). More specifically, as risk refers to “the possibility of loss” (Yates & Stone, 1992, p. 4), managers will implement a solution if they assess that the level of risk is acceptable (Chiles & McMackin, 1996). Following this reasoning, search process and the level of risk tolerance are important elements that can induce firms to pursue organizational change.

Search is a stable and routine process driven by multiple factors (March, 1981). Firms are normally forced to search for new and better solutions when they face multiple problems (March, 1991). In business, firms assess their achievements by comparing their actual performance to targets or aspirations. If actual performance is below target, resulting in negative performance feedback, an organization will search for solutions (Levinthal & March, 1981). Organizations that achieved performance targets but accumulated slack may also search for investment opportunities to maximize profit (Baum et al., 2005). Slack increases firms’ ability to tolerate future uncontrolled adversity. Consequently, organizations with slack can pursue search activities even when they cannot justify expected returns (March, 1981; Levinthal & March, 1981).

In the behavioral theory of the firm, the search process generates business solutions. Whether the solutions will be transformed into organizational change depends on the level of risks that decision

makers perceive from the outcome of those solutions. The study of internationalization process by Johanson and Vahlne (1977) has documented that firms will not expand their business to a specific market unless the perceived risk associated with the new investment is at an acceptable level.

Negative performance feedback and slack can trigger search activities, and increase managerial tolerance of risks. Prior studies (e.g., Iyer & Miller, 2008; Greve, 2003a, 2007) have found evidence that negative performance feedback and slack are likely to increase the probability of firms' undertaking risky organizational changes.

This dissertation applies the aforementioned line of arguments to the change in speed dimension of the internationalization process. Figure 3.1 and 3.2 present the conceptual framework of this dissertation. Based upon the concepts of organizational search and decision making of the behavioral theory of the firm, the performance feedback and organizational slack are expected to be associated with the change in speed of internationalization process and FDI location choice.

Figure 3.1: Conceptual framework of performance feedback model

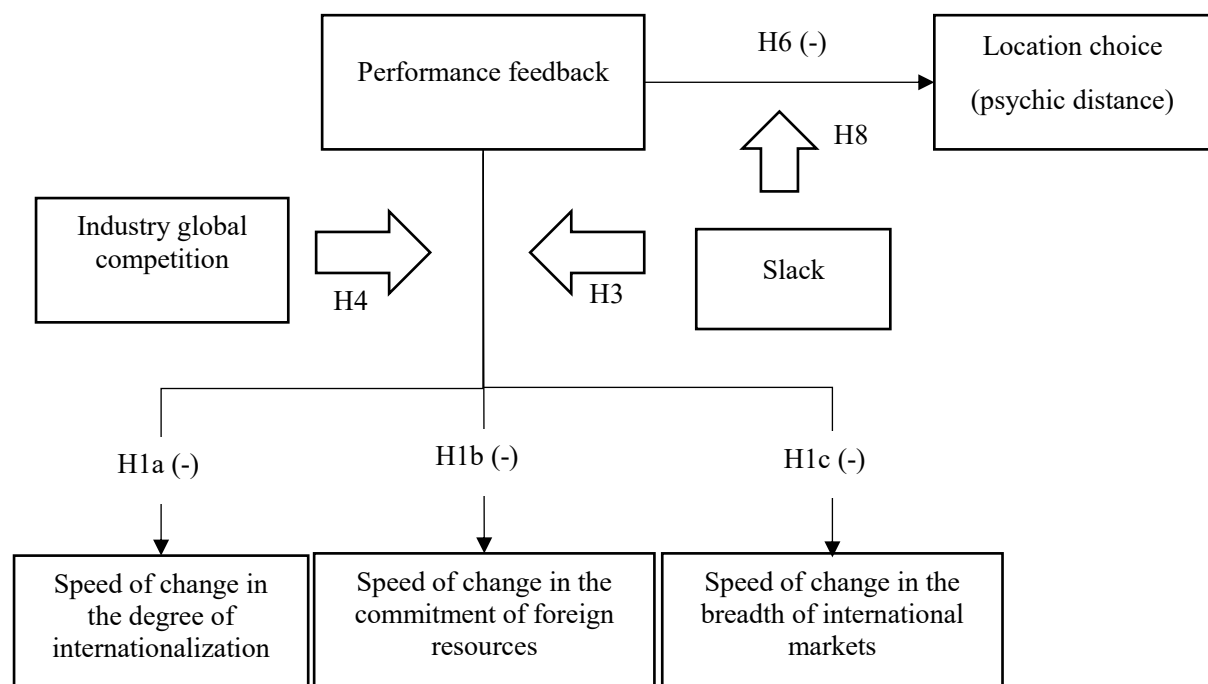
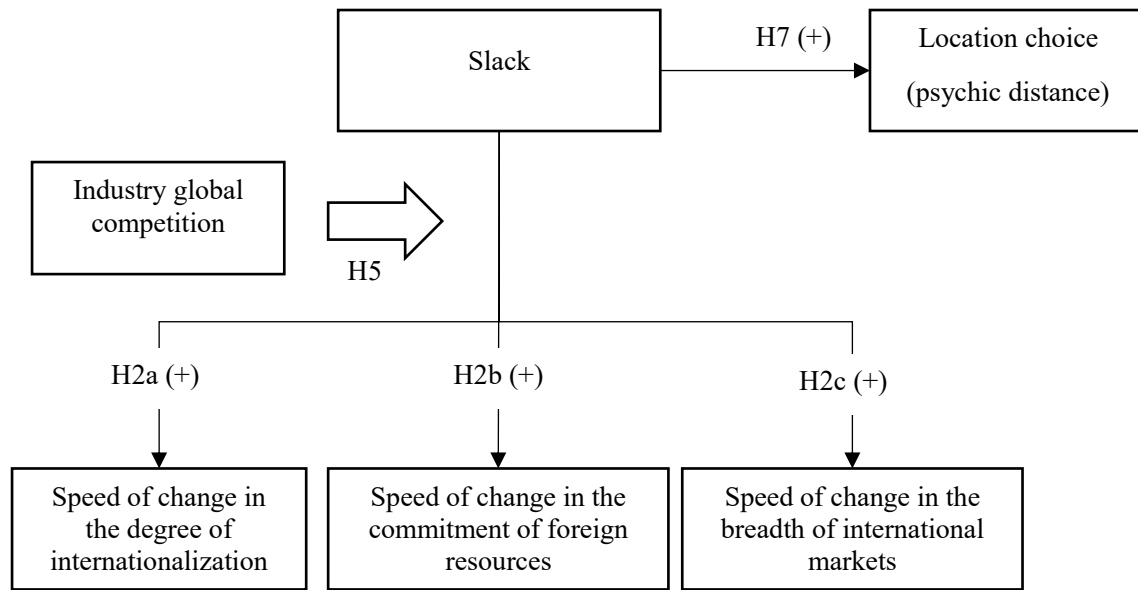


Figure 3.2: Conceptual framework of slack model



3.2 Hypotheses on speed of internationalization of firms

According to the internationalization process theory (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977, 1990), internationalization is an incremental process by which firms develop in small and successive steps. In the early stages of internationalization, firms normally choose the less risky mode of entry, that is, exports, to expand to overseas markets and start from markets that are psychically close to the home country to minimize the risk from the liability of foreignness (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977). Firms tend to increase their commitment to foreign markets when they have obtained sufficient market knowledge. Experiential knowledge has long been recognized as the most crucial learning method for internationalization. The current phenomenon of rapid internationalization (Chang & Rhee, 2011) results in firms gaining market knowledge without long-term experience in a certain market. There must be other forms of learning for firms to obtain specific market knowledge more rapidly. Forsgren (2002) has documented that firms can learn and obtain market information through search activities, enabling them to increase the speed of the internationalization process. Prior studies (Sullivan, 1994; Casillas & Acedo, 2013) measure the speed of internationalization by the change in extent or degree, breadth or scope, and commitment of foreign resources.

Cyert and March (1963) viewed firms as large systems of standard operating procedures, or routines. In management, firms know the levels of performance they aspire to, or aspirations, and the levels of performance they expect to achieve, or expectations. Aspiration level is a value, which decision makers consider a goal to achieve and the boundary between success and failure (Lant, Milliken, & Batra, 1992; Greve, 2003a). If expectations fall below aspirations, managers tend to search for solutions that can raise expected performance to the aspiration level. Performance below the aspiration level will generate negative performance feedback for decision makers, who then initiate a search activity called “*problemistic search*.” Low performance relative to the aspiration level will also increase managerial tolerance for risk. Managers tend to view performance below their aspiration level as a loss situation, and thus, are willing to take higher risks to improve (Kahneman & Tversky, 1979; Miller & Chen, 2004). Individuals are more eager to take greater risks when they fail to attain their aspiration level and choose alternatives with higher uncertainty (Tversky & Kahneman, 1981; Bolton, 1993; Bromiley, 1991; Greve, 1998; Miller & Leiblein, 1996).

Taken together, negative performance feedback will initiate search activities and increase managerial tolerance for risk. When firms have performance shortfalls relative to aspiration levels, they are more likely to undertake rapid internationalization. Therefore, I propose the following hypotheses for empirical testing:

Hypothesis 1a: There is a negative relationship between performance feedback and the speed of change in degree of internationalization. More specifically, firms with performance lower than the aspiration level are expected to have a higher speed of change in the degree of internationalization.

Hypothesis 1b: There is a negative relationship between performance feedback and the speed of change in the commitment of foreign resources. More specifically, firms with performance lower than the aspiration level are expected to have a higher speed of change in the commitment of foreign resources.

Hypothesis 1c: There is a negative relationship between performance feedback and the speed of change in the breadth of international markets. More specifically, firms with performance lower than the aspiration level are expected to have a higher speed of change in the breadth of international markets.

Organizational slack also influences the search activity of firms. Slack is an excess resource that serves as a buffer for failure of investments or operations. For example, Bromiley (1991, p. 43) stated that "firms use slack to smooth investment, staffing, and so forth and to buffer their technological cores from short-term random fluctuations in the environment." Slack allows firms to experiment and pursue organizational change (Cyert & March, 1963; March, 1981). Slack is important for firms to undertake unplanned strategic actions; it allows them to allocate resources and time to investments with uncertain expected outcomes (Burgelman, 1991). Slack also increases the ability of firms to take up profitable opportunities that might emerge in the market (Thompson, 1967). Firms with additional resources (i.e., slack) tend to have more strategic options available than firms without additional resources.

There are various types of slack. Slack exists as administrative resources or is already absorbed in the system, that is, salaries, overhead expenses, and various other administrative costs. This is generally known as absorbed slack. Slack also exists as financial reserves in the form of cash, financial instruments, or any liquid resources that are uncommitted to liabilities in the near future. This is called unabsorbed slack. Firms can also have potential slack, which refers to their borrowing ability (i.e., debt financing) to support future investments (Singh, 1983).

Performance is a short-term value, which firms assess in relative to aspiration level that is adjusted every year. Unlike performance, which managers evaluate periodically, slack appears in the form of excess resources, such as redundant employees, unused capacity, and capabilities and unnecessary capital expenditures accumulated over time, and thus, better reflect the stability of organizations (Cyert & March, 1963; Greve, 2003a). In general, performing firms are likely to have more slack, but wealthy ones may have periods of low performance. Furtherer more, less affluent firms may have periods of high performance. Performance and slack do not necessarily co-exist. Therefore,

the effect of organizational slack on change in speed of internationalization should be analyzed in separation from the effect of performance feedback. Therefore, I propose the following hypotheses for empirical testing:

Hypothesis 2a: There is a positive relationship between slack and the speed of change in the degree of internationalization. More specifically, firms with higher slack are expected to have a higher speed of change in the degree of internationalization.

Hypothesis 2b: There is a positive relationship between slack and the speed of change in the commitment of foreign resources. More specifically, firms with higher slack are expected to have a higher speed of change in the commitment of foreign resources.

Hypothesis 2c: There is a positive relationship between slack and the speed of change in the breadth of international markets. More specifically, firms with higher slack are expected to have higher speed of change in breadth of international markets.

If firms have a higher slack that buffer possible failures in internationalization, they are more likely to initiate the internationalization process in case of below-aspiration-level performance. Therefore, the hypothesis is as follows:

Hypothesis 3: Slack moderates the effect of performance feedback on the speed of internationalization. More specifically, firms with higher slack exhibit a higher speed of internationalization when their performance is lower than the aspiration level.

Increasing global competition induces firms to reassess strategies (Wheeler & McDonald, 2003). Chang and Rhee (2011) argued that firms often find it necessary to achieve a global scale more rapidly (i.e., internationalization) when global competition intensifies. Chen and MacMillan (1992) also found that firms are more likely to response faster and more decisively under a competitive environment. Because each industry has unique characteristics that influence the behavior of firms (Schoenecker &

Cooper, 1998; Spanos, Zaralis, & Lioukas, 2004), the intensity of global competition may vary across industries (Chang & Rhee, 2011).

Hypothesis 4: Industry global competition has a moderating effect on the relationship between performance feedback and the speed of internationalization. More specifically, firms in an industry with intense global competition exhibit a higher speed of internationalization when experiencing below-aspiration-level performance.

Hypothesis 5: Industry global competition has a moderating effect on the relationship between slack and the speed of internationalization. More specifically, firms in an industry with intense global competition exhibit a higher speed of internationalization when having slack.

3.3 Hypotheses on foreign location choice of firms

Prior empirical studies (e.g., Gomez-Mejia & Palich, 1997; Hennart & Larimo, 1998; Li & Guisinger, 1992) have documented that psychic distance may become an obstacle to successful penetration into foreign markets. For instance, lack of fluency in a partner's native language may constitute great obstacles to accessing foreign markets (Simonin, 1999; Evangelista, 2007). In addition, cultural distance may create difficulties in communication, designing work, developing managerial approaches (Olk, 1997), information flows, and knowledge transfer (Mowery, Oxley, & Silverman, 1996). The increasing degree of psychic distance tends to increase uncertainty in the outcome of the internationalization process, increasing the risk of internationalization (Nuwagaba, Ntayi, & Ngoma, 2013). However, if firms have higher risk tolerance due to negative performance feedback or slack, they may decide to expand their businesses to a location at a greater psychic distance. Therefore, I present three additional hypotheses.

Hypothesis 6: There is a negative relationship between performance feedback and psychic distance between host and home countries. More specifically, firms performing lower than their aspiration level are more likely to choose a foreign location at greater psychic distance.

Hypothesis 7: There is a positive relationship between slack and psychic distance between host and home countries. More specifically, firms with a higher slack are more likely to choose a foreign location at greater psychic distance.

Hypothesis 8: Slack has a moderating effect on the relationship between performance feedback and psychic distance between host and home countries. More specifically, firms that perform lower than aspirations but possess slack exhibit internationalization in locations with greater psychic distance.

3.4 Summary of hypotheses for empirical analyses

Table 3.1: Summary of hypotheses for empirical analyses

Research Objectives	Research Questions	Hypothesis
To understand the behavior of multinational firms in their internationalization process from the perspective of the behavioral theory of the firm	How does performance feedback influence the speed dimension of a firm's internationalization, and to what extent?	Hypothesis 1a: There is a negative relationship between performance feedback and the speed of change in the degree of internationalization.
		Hypothesis 1b: There is a negative relationship between performance feedback and the speed of change in the commitment of foreign resources.
		Hypothesis 1c: There is a negative relationship between performance feedback and the speed of change in the breadth of international markets.
	How does organizational slack influence the speed dimension of a firm's internationalization, and to what extent?	Hypothesis 2a: There is a positive relationship between slack and the speed of change in the degree of internationalization
		Hypothesis 2b: There is a positive relationship between slack and the speed of change in the commitment of foreign resources
		Hypothesis 2c: There is a positive relationship between slack and the speed of change in the breadth of international markets
		Hypothesis 3: Slack moderates the effect of performance feedback on the speed of internationalization

To understand the effect of industry global competition on internationalization behavior of firms	How does industry global competition moderate the effect of performance feedback and the effect of organizational slack on the speed of a firm's internationalization, and to what extent?	Hypothesis 4: Industry global competition has a moderating effect on the relationship between the performance feedback and the speed of internationalization
		Hypothesis 5: Industry global competition has a moderating effect on the relationship between slack and the speed of a firm's internationalization
To understand the behavior of multinational firms regarding their FDI location choice from the perspective of the behavioral theory of the firm	How does performance feedback influence a firm's FDI location choice, and to what extent?	Hypothesis 6: There is a negative relationship between performance feedback and psychic distance between host and home countries.
	How does organizational slack influence a firm's FDI location choice, and to what extent?	Hypothesis 7: There is a positive relationship between slack and psychic distance between host and home countries.
		Hypothesis 8: Slack has a moderating effect on the relationship between performance feedback and psychic distance between host and home countries.

CHAPTER 4

RESEARCH SETTING AND METHODOLOGY

4.1 Research setting and sample

This dissertation examines the effects of performance feedback and slack on the speed of change in internationalization and FDI location choice of publicly listed Japanese firms in the manufacturing sector during 1991–2017. Holding companies, which often own diverse subsidiaries (Mayer & Whittington, 1996), were excluded, as it is difficult to gauge the performance of the companies as per subsidiaries and business sectors. The manufacturing sector is classified into 24 categories according to the Japan Standard Industrial Classification (JSIC), starting from JSIC 09 to JSIC 32, as shown in table 4.1. The study period spanned 26 years, which is sufficiently long to observe volatility in performance and slack. Therefore, Japanese multinational firms were expected to exhibit some insightful patterns of international expansion and foreign location choices, which this dissertation intends to capture.

Table 4.1: Sub-categories under manufacturing sector

JSIC Code	Category
09	Food
10	Beverages, tobacco, and feed
11	Textile products
12	Lumber and wood products, except furniture
13	Furniture and fixtures
14	Pulp, paper, and paper products
15	Printing and allied industries
16	Chemical and allied products
17	Petroleum and coal products
18	Plastic products, except otherwise classified
19	Rubber products
20	Leather tanning, leather products, and fur skins
21	Ceramic, stone, and clay products
22	Iron and steel
23	Non-ferrous metals and products
24	Fabricated metal products

25	General-purpose machinery
26	Production machinery
27	Business oriented machinery
28	Electronic parts, devices, and electronic circuits
29	Electrical machinery, equipment, and supplies
30	Information and communication electronics equipment
31	Transportation equipment
32	Miscellaneous manufacturing industries

Source: Ministry of Internal Affairs and Communications, 2013

Empirical studies on the internationalization behavior of Japanese firms are particularly important, as Japanese multinational firms are leading global players and the increasing trend of Japan's outward FDI is very noticeable in recent years. The internationalization behaviors of Japanese MNEs could provide a good research setting, as most recent studies on the dynamic of internationalization process primarily focus on SMEs and international entrepreneurship (e.g., Oviatt & McDougall, 1994; Casillas & Acedo, 2013; Ruzzier et al., 2006). Although some empirical studies examine the internationalization processes of large firms, they usually focus on firms from emerging economies (e.g., China, Taiwan, Mexico, Brazil, and Turkey) (e.g., Bonaglia et al., 2007; Lin, 2014; Child & Rodrigues, 2005; Dib, Da Rocha, & Da Silva, 2010). Therefore, examining the internationalization behavior of large Japanese firms would provide a significant contribution to the literature in international business.

A data set of all listed firms in the first section of the Tokyo Stock Exchange was constructed. Specifically, Japanese corporate financial data was drawn from the Nikkei Economic Electronic Databank System (NEEDS). FDI data of Japanese firms were drawn from Kaigai Shinshutsu Kigyo Souran (Facts & figures of Japanese Overseas Investment by firms) published by Toyo Keizai, which collects information on Japanese foreign subsidiaries annually. Toyo Keizai is one of the most extensive databases, covering almost the entire population of Japanese FDI (Delios & Beamish, 1999; Hennart, 1991). Macroeconomic data, including export, import, and production by industry, which were used to calculate levels of industry global competition, were drawn from the data set of "bilateral trade in goods by industry" provided by the Organisation for Economic Co-operation and Development (OECD).

4.2 Dependent variables

Internationalization is a dynamic process that could be primarily measured in terms of (1) extent or scale, (2) breadth or scope, and (3) speed (e.g., Zahra & George, 2002; Chetty et al., 2014; Pla-Barber & Escribá-Esteve, 2006). Although prior studies on the internationalization process focus mainly on scale and scope (Casillas & Acedo, 2013), this dissertation focuses on the dimension of speed. Empirical studies on the speed of internationalization have applied different operationalization of speed, including the average number of FDIs in new countries per year (Chang & Rhee, 2011), elapsed time between the year of a firm's founding and its first international activity (Ramos, Acedo, & Gonzalez, 2011), and a firm's age at entry into international markets (Acedo & Jones, 2007). However, most of these measures are suitable for SMEs and newly born companies, as they focus most on the speed of first international activity. However, they do not measure the speed of ongoing internationalization processes after initial foreign market entry of MNEs. Therefore, I investigate the speed of internationalization in terms of the rate of change in the degree of internationalization over a period of time (Zahra & George, 2002). I focus primarily on the post-entry process; that is, studying the evolution of internationalization processes after first investment abroad but before divestment.

The speed of change in firm internationalization in this dissertation was measured as the annual rate change in a specific dimension of internationalization (Casillas & Acedo, 2013) and the higher extent of ratio changes could be conceptualized as the higher speed of internationalization (Krist, 2009). This dissertation examines three dimensions of firm internationalization: degree of internationalization, commitment of foreign resources, and breadth of international markets. Accordingly, the *speed of change in the degree of internationalization* is defined as the rate of change in the degree of internationalization over a specific period of time (Sullivan, 1994; Casillas & Acedo, 2013) and could be proxied by the percentage change in the ratio of foreign sales to consolidated corporate sales in time t relative to time $t-1$ (Wagner, 2004; Sullivan, 1994; Zahra & George, 2002).

The *speed of change in the commitment of foreign resources* refers to the rate of change in the extent of a firm's commitment of resources to foreign activity (Sullivan, 1994). A firm's commitment

to internationalization can be measured by the proportion of employees in foreign subsidiaries to employees in Japan (Kim, Hwang, & Burgers, 1989) and the number of subsidiaries established abroad. The number of workers in foreign enterprises was retrieved from the number of employees in foreign subsidiaries reported in the Kaigai Shinshutsu Kigyo Souran. Because the percentage of ownership reflects the proportion of that assets belonging to a firm, and firms that hold less equity shares would bear lower investment risk, the number of foreign employees should be weighted by the percentage of ownership of the parent company in each subsidiary. Consequently, the speed of change in the extent of commitment of foreign resources is proxied by the percentage change in the proportion of foreign employees to domestic employees and the percentage change in the number of foreign subsidiaries in time t relative to time $t-1$ (Sullivan, 1994; Casillas & Acedo, 2013).

The *speed of change in the breadth of international markets* refers to the rate of change in the dispersion of international markets. Following prior studies (e.g., Zahra & George, 2002; Casillas & Acedo, 2013; Chetty, Johanson, & Martin, 2014), the breadth of internationalization is the number of countries where firms actively have business operations. Therefore, the speed of change in the breadth of international markets in this dissertation is measured by the percentage change in the number of countries to which the firm makes capital investment.

The operationalization of the speed of change in the degree of internationalization, in the commitment of foreign resources, and in the breadth of international markets is the change rate in percentage in year t relative to the prior year or year $t-1$. For example, consider a firm sets up its first foreign subsidiary in 2000, its second in 2002, another in 2004, and finally, two more in 2005. Its speed score will be $1/1=1$ (100%) in 2001, $2/1=2$ (200%) in 2002, $2/2=1$ (100%) in 2003, $3/2=1.5$ (150%) in 2004, and $5/3=1.67$ (167%) in 2005, respectively, as shown in Table 4.2. This function will capture the change in the degree of internationalization, commitment of foreign resources, or the breadth of international markets over one year. In contrast, the speed measure calculated using the method by Vermeulen and Barkema (2002), also used in other studies, is the average number of foreign subsidiaries per year, or more specifically, the number of foreign subsidiaries divided by the number of years since

the firm's first foreign expansion. For example, as shown in Table 4.2, if a firm made first overseas investment in 2000, its second in 2002, another in 2004, and finally, two more in 2005, its speed score will be $1/1=1$ in 2001, $2/2=1$ in 2002, $2/3=0.67$ in 2003, $3/4=0.75$ in 2004, and $5/5=1$ in 2005, respectively. However, I believe that this measurement does not reflect the real speed of internationalization because two subsidiaries in two years should not be considered the same as five subsidiaries in five years in terms of speed. The speed measurement by Vermeulen and Barkema (2002) is used for the robustness check (Chang & Rhee, 2011; Lin, 2012). In other words, the empirical results of Vermeulen and Barkema's (2002) measurement will be compared with the results of the measurement of the speed of internationalization used in this dissertation.

Table 4.2: Calculating the speed score

Year	2000	2001	2002	2003	2004	2005
No. of foreign subsidiary set up (Cumulative)	1 (1)	0 (1)	1 (2)	0 (2)	1 (3)	2 (5)
Speed score by Vermeulen and Barkema (2002)		1	1	0.67	0.75	1
Speed score in this dissertation (% relative to prior year)		1 (100%)	2 (200%)	1 (100%)	1.5 (150%)	1.67 (133%)

Psychic distance was used in this dissertation as a dependent variable to study the behavior of a firm when choosing a location for overseas investment. Because psychic distance is a source of uncertainty and great psychic distances would increase the perception of risk in the host country (e.g., Hennart & Larimo, 1998), a firm is more likely to expand businesses to a location at greater psychic distance if it has an adequate level of risk tolerance. Unlike most other researches (e.g., Kogut & Singh, 1988; Shenkar, 2001; Quer, Claver, & Rienda, 2007), which use cultural distance as the measurement of distance between pairs of countries, in this dissertation, I measured the distance along multiple dimensions based on the perspective of institutional difference (Berry, Guillén, & Zhou, 2010; Ghemawat, 2001). Differences between countries are more diverse than merely in terms of culture (Jackson & Deeg, 2008). Business factors, such as legal and competitive environments (O'Grady &

Lane, 1996), and institutional factors, such as religion, education systems, and political systems have been found to affect a firm's strategic decision when choosing acquisition target or mode of entry into the international market (Shenkar, 2001).

Many scholars have argued that institutional distances, including differences in religion, educational systems, and political systems, are a subset of psychic distance (Johanson & Wiedersheim-Paul, 1975; Dow & Ferencikova, 2010). Therefore, following the work of Berry, Guillén and Zhou (2010), this dissertation measured psychic distance between the home country (i.e., Japan) and the host country of each subsidiary on the basis of nine dimensions of institutional distance as follows: economic, financial, political, administrative, cultural, demographic, knowledge, connectedness, and geographic dimensions (See details of psychic distance dimensions in table 4.3). The value of distance for each dimension, except the cultural dimension, was retrieved from the database developed by Berry et al. (2010)². The data on cultural distance is measured as per the nine dimensions developed by the Global Leadership and Organizational Behavior Effectiveness (GLOBE) project (House, Hanges, Javidan, Dorfman, & Gupta, 2004). Following the approach of Morosini, Shane and Singh (1998), the cultural distance score in this dissertation is calculated as a composite index using the following formula:

$$CD_{jp} = \sqrt{\sum_{i=1}^9 (I_{ij} - I_{ip})^2}$$

where CD_{jp} is the cultural difference between the j^{th} country and Japan, I_{ij} is the GLOBE score for i^{th} dimension of the j^{th} country, and p represents the home country (i.e., Japan). Because investment risks of firms would be lower if they hold less equity shares, each dimension of distance is weighted by the percentage of ownership that the parent company holds in that foreign subsidiary.

² The data is available at <https://lauder.wharton.upenn.edu/resources-publications/>.

Table 4.3: Dimension of psychic distance

Dimension of psychic distance	Definition	Variables	Components of variables	Source of data	Reference
Economic	Differences in economic development and macroeconomic characteristics	1. Income 2. Inflation 3. Exports 4. Imports	1. GDP per capita 2. GDP deflator (%GDP) 3. Exports of goods and services (%GDP) 4. Imports of goods and services (%GDP)	World Development Indicators (WDI) by World Bank	Whitley (1992); Caves (1996)
Financial	Differences in financial sector development	1. Private credit 2. Stock market capitalization 3. Listed companies	1. Domestic credit to private sector (% GDP) 2. Market capitalization of listed companies (% GDP) 3. Number of listed companies (per one million population)	WDI by World Bank	Whitley (1992); Porta et al. (1998)
Political	Differences in political stability, democracy, and trade bloc membership	1. Policy making uncertainty 2. Size of the state 3. WTO member 4. Regional Trade Agreement	1. Political stability measured by considering independent institutional actors with veto power 2. General government final consumption expenditure (% of GDP) 3. Membership in WTO (GATT before 1993) 4. Dyadic membership in the same trade bloc	The Political Constraint Index Dataset (POLCON), WTO, WDI	Whitley (1992); Henisz (2000); Henisz & Williamson (1999)
Administrative	Differences in language, religion, and legal system	1. Colonizer-colonized link 2. Common religion 3. Legal system	1. Whether dyad shares a colonial tie 2. % population that share the same religion in the dyad 3. Whether dyad shares the same legal system	Central Intelligence Agency (CIA) World Factbook	Whitley (1992); Henisz (2000); Ghemawat (2001); Porta et al. (1998)

Cultural*	Differences in attitudes toward authority, trust, individuality, and importance of work and family	1. Performance Orientation 2. Assertiveness 3. Future orientation 4. Humane orientation 5. Institutional collectivism 6. In-group collectivism 7. Gender egalitarianism 8. Power distance 9. Uncertainty avoidance	1. The degree to which a collective encourages and rewards group members for performance improvement and excellence. 2. The degree to which individuals are assertive, confrontational, and aggressive in their relationship with others. 3. The extent to which individuals engage in future-oriented behaviors such as planning, investing in the future, and delaying gratification. 4. The degree to which a collective encourages and rewards individuals for being fair, altruistic, generous, caring, and kind to others. 5. The degree to which organizational and societal institutional practices encourage and reward collective distribution of resources and collective action. 6. The degree to which individuals express pride, loyalty, and cohesiveness in their organizations or families. 7. The degree to which a collective minimizes gender inequality. 8. The extent to which the community accepts and endorses authority, power differences, and status privileges. 9. The extent to which a society, organization, or group relies on social norms, rules, and procedures to alleviate unpredictability of future events.	GLOBE (Global Leadership and Organizational Behavior Effectiveness) research program	House, Hanges, Javidan, Dorfman & Gupta (2004)
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Demographic	Differences in demographic characteristics	1. Life expectancy 2. Birth rate 3. Population under 14 4. Population under 65	1. Life expectancy at birth, total (years) 2. Birth rate, crude (per 1,000 people) 3. Population ages 0-14 (% of total) 4. Population ages 65 and above (% of total)	WDI by World Bank	Whitley (1992)
Knowledge	Differences in patents and scientific production	1. Patents 2. Scientific articles	1. Number of patents per one million population 2. Number of scientific articles per one million population	United States Patent and Trademark Office, Thompson Reuters InCites	Nelson & Rosenberg (1993); Furman et al. (2002)
Global Connectedness	Differences in tourism and Internet use	1. International Tourism Expend 2. International Tourism Receipts 3. Internet use	1. International tourism, expenditures (% GDP) 2. International tourism, receipts (% GDP) 3. Internet users per 1,000 people	WDI by World Bank	Nelson & Rosenberg (1993); Guillen & Suárez (2005)
Geographic	Great circle distance between the geographic center of countries	Great circle distance	Great circle distance between two countries, according to the coordinates of the geographic center of the countries	CIA World Factbook	Anderson (1979); Deadorff (1998)

Source: Berry, Guillén & Zhou (2010), pp. 1464-1465;

*GLOBE Project (House, Hanges, Javidan, Dorfman & Gupta, 2004)

4.3 Independent variables

This dissertation applies the concept of behavioral theory of the firm and industry global competition to examine the underlying factors that explain the behavior of MNEs expanding businesses to overseas markets. From a behavioral perspective, negative feedback and abundant slack are expected to drive firms to increase the speed of internationalization and expand businesses to locations at great psychic distance. Meanwhile, the intensity of global competition in each industry is expected to moderate the effects of firms' characteristics on internationalization process. To disentangle the effects of a firm's heterogeneity to the internationalization process, I employed the following measures to constitute independent variables.

Performance feedback is the level of a firm's performance relative to its aspiration level. Following Greve (2003a, 2010) and Miller and Chen (2004), a firm's performance is measured in this dissertation by its historical return on investment (ROA). This dissertation defines aspiration level as the outcome or target return deemed satisfactory by the decision maker (Schneider, 1992; Fishburn, 1977; Tversky & Kahneman, 1981). Following prior studies in this line of research (e.g., Bromiley, 1991; Wiseman & Bromiley, 1996; Wiseman & Catanach, 1997; Deephouse & Wiseman, 2000; Park, 2007; Washburn & Bromiley, 2012; Schimmer & Brauer, 2012), this dissertation assumes that firms performing below their industry's average will aspire only to the industry's average, as their target aspiration level. In contrast, firms performing above the industry's average will aspire to improve their current position, and aim to achieve 5% markup from their past performance. Therefore, the aspiration level of a firm can be calculated as follows:

$$\text{Aspiration}_{i,t} = I(P_{i,t} < SA_{i,t}) \times SA_{i,t} + I(P_{i,t} > SA_{i,t}) \times 1.05 \times HA_{i,t-1}$$

where i and t index firm i and time t , respectively. $P_{i,t}$ is the performance of firm i at time t ; $SA_{i,t}$ represents the social aspirations of firm i at time t , as measured by the average ROA of firms in the same industry, that is, the same two-digit JSIC code, and $HA_{i,t-1}$ represents the historical performance of firm i at year $t-1$.

Organizational slack is a disparity between the resources available to the organization and the payments required to maintain the coalition (Cyert & March, 1963, p. 42). Slack is primarily classified into three types to reflect the different purposes of resources, which are (1) resources absorbed into the operational system to gain management efficiency, (2) uncommitted liquid resources that are available for immediate obligation and (3) resources that could be potentially acquired in form of debt for plans. The first type of slack is *absorbed Slack*, which is defined as administrative resources beyond what is necessary for short-term operations and the maintenance of an organization (Singh, 1986). It is measured by the ratio of selling, general, and administrative expenses to sales (Bourgeois, 1981; Singh, 1986; Greve, 2003a). Second, *unabsorbed slack* is defined as liquid resources uncommitted to liabilities in the near future and can be available immediately (Singh, 1986). It is measured by the ratio of quick assets (i.e., cash, marketable securities, and account receivable) to current liabilities (Bourgeois, 1981; Singh, 1986; Greve, 2003a). *Potential slack* is defined as borrowing ability that indicates a firm's ability to support investment via debt financing in the future (Bourgeois & Singh, 1983). It is measured by the ratio of debt to equity (Bromiley, 1991; Greve 2003a, 2003b). Unlike absorbed and unabsorbed slack in which the direction of the effects on the speed of internationalization and psychic distance are straightforward, the relationship between potential slack and the speed of internationalization or psychic distance is expected to have a negative coefficient. More precisely, the higher ratio of debt to equity (i.e., low potential slack) exhibits a lower borrowing ability to finance the internationalization strategy in the future, and thus, it is expected to negatively associate with the speed of internationalization and psychic distance.

Industry global competition refers to the industry-level competitive pressures stemming from the globalization of the industry (Chang & Rhee, 2011). It can be measured by the level of industry international linkages, indexed by Makhija, Kim and Williamson (1997), which is operationalized by the proportion of the value of international trade flow relative to values of domestic consumption. The level of international linkages in each industry is suggested as an appropriate indicator of the extent to which a specific industry is globalized (Arndt, 1999; Kobrin, 1991; Makhija et al., 1997). Industries with high international linkage have greater integration into global markets and move more tangible

and intangible assets across countries. These firms are more likely to face more intense competition from foreign firms. In addition, firms in a globalized industry are more concerned with their position in the global market, as their competitive position in one country significantly affects their position in other marketplaces (Porter, 1986). Therefore, global competition has some influence on the internationalization process and psychic distance of Japanese firms.

The level of the industry's international linkage index is calculated as the proportion of international trade in relation to overall consumption within a local market (Makhija et al., 1997). Overall consumption is calculated by the summation of industry production and imports minus exports. Therefore, the level of international linkage (LIT) for a specific industry is calculated as follows:

$$LIT_{i,t} = \frac{X_{i,t} + M_{i,t}}{(P_{i,t} + M_{i,t} - X_{i,t})}$$

where i and t index industry i and time t , respectively. $X_{i,t}$ denotes exports, $M_{i,t}$ denotes imports, and $P_{i,t}$ denotes the value of domestic production. $P_{i,t} + M_{i,t} - X_{i,t}$ reflects the size of the domestic market. Import, export, and production data of Japan in each industry according to JSIC code are extracted from the OECD's Bilateral Trade Database.

4.4 Control Variables

In this dissertation, two important factors that might affect the speed of internationalization and the location choice are controlled. Studies on international entrepreneurship and new international new ventures suggest that *firm age and size* could be factors that influence the speed of internationalization processes (Oviatt & McDougall, 1994, 1997; Oviatt et al., 2004). As organizations grow, the degree of structural inertia becomes higher. Increasing bureaucracy in mature organizations will diminish flexibility and make it harder to undertake strategic changes, including internationalization (Hannan & Freeman, 1984). Therefore, a firm's age as measured by the natural logarithm of years since its foundation year is controlled. The number of subsidiaries, which is used as a proxy to control for international experience, has high correlation with sales and the total number of employees (i.e.,

correlation coefficients above 0.70); therefore, the number of foreign subsidiaries is also used as a control variable for firm size.

The number of foreign subsidiaries in time t-1 is used to control for the effect of international experience. Exposure to international markets enables a firm to acquire experiential knowledge, helping them overcome the liabilities of foreignness. Firms with more international experience are more likely to have experiential knowledge, and consequently, show higher tendencies to increase commitments to foreign markets and more rapid pace of internationalization (Johanson & Vahlne, 1977; Kogut & Zander, 1993; Eriksson et al., 2015).

Table 4.4: Summary of variables

Variables	Definition	Measurement	Source of data
Independent Variables			
Performance	Firm's performance in current year	ROA or net income to total assets	Nikkei NEEDS
Social aspiration level	Average performance of firms in the same industry with same three digits of JSIC	Average ROA of the firms in the same industry based on three digits of JSIC	Nikkei NEEDS
Historical aspiration level	Past performance of firm in the prior year	ROA in year t-1	Nikkei NEEDS
Absorbed slack	Resources absorbed as operational costs	SG&A expenses to sales	Nikkei NEEDS
Unabsorbed slack	Liquid resources that are uncommitted and available for immediate use	Quick assets to current liabilities	Nikkei NEEDS
Potential slack	Resources that can be potentially generated from debt in the future	Debt to Equity	Nikkei NEEDS
Industry global competition	Level of industry's international linkages index	$\frac{\text{Export} + \text{Import}}{\text{Production} + \text{Import} - \text{Export}}$	OECD Bilateral trade database
Firm's age	Age of firm since the firm's foundation year	Natural logarithm of years since the firm's foundation year	Nikkei NEEDS

International experience	Firm's experience in international market	Number of foreign affiliates in time t-1	Kaigai Shinshutsu Kigyo Souran (Facts & figures of Japanese Overseas Investment by firms) published by Toyo Keizai
Dependent Variables			
Speed of change in the degree of internationalization	Speed of company's growth in international business	Growth rate (% change) in the proportion of foreign sales to total corporate sales in year t compared to year t-1	Nikkei NEEDS
Speed of change in the commitment of foreign resources	Speed of change in the degree of a firm's commitment of foreign resources	Growth rate (% change) in the proportion of workers employed in foreign subsidiaries relative to domestic employees in year t compared to year t-1	Kaigai Shinshutsu Kigyo Souran (Facts & figures of Japanese Overseas Investment by firms) published by Toyo Keizai
		Growth rate (% change) in the number of foreign affiliates in year t compared to year t-1	
Speed of change in the breadth of international markets	Speed that companies expand businesses to new countries	Growth rate (% change) in number of new invested countries in year t compared to year t-1	Kaigai Shinshutsu Kigyo Souran (Facts & figures of Japanese Overseas Investment by firms) published by Toyo Keizai
Psychic distance	Factors that prevent the flow of information from and to foreign markets	Institutional based cross-national distance, including economic, financial, political, financial, knowledge, demographic, administrative global connectedness, and geographic distance	The Lauder Institute, University of Pennsylvania (https://lauder.wharton.upenn.edu/resources-publications/)
		Cultural distance	GLOBE project (www.globeproject.com)

4.5 Data analysis method

4.5.1 Behavioral perspective on the speed of internationalization

The results of the Hausman test indicated that fixed effect models are appropriate for parameter estimation because the p-value from the Hausman test rejected the null hypothesis that the individual specific effects are random at the 0.01 significance level (Hausman, 1978). Therefore, to control for unobserved time-invariant firm heterogeneity and time-variant year specific effects, this dissertation uses ordinary least squares (OLS) regression with firm fixed effect and year fixed effect is used to empirically test the effects of performance feedback and slack on the speed of internationalization (Hypotheses 1 to 5).

Firms that perform better or worse than the aspiration level are expected to exhibit different responses against performance feedback (e.g., Greve, 2003a; Lin, 2014). Therefore, in this dissertation, the spline function (Greene, 1993) is applied to test for the different effects of (i) performance feedback above aspiration level ($PERFEED_ASPL > 0$) and (ii) performance feedback below aspiration level ($PERFEED_ASPL < 0$). $PERFEED_ASPL < 0$ (i.e., negative performance feedback) equals ROA minus aspirations for observations, where ROA is lower than the aspiration level, and equals zero for observations where ROA is higher than the aspiration level. $PERFEED_ASPL > 0$ (i.e., positive performance feedback) equals ROA minus aspirations for observations, where ROA is higher than the aspiration level, and equals zero for observations where ROA is lower than the aspiration level. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality and entering a foreign market requires a certain elapsed time between the management's decision and the establishment or application of strategic change in foreign subsidiaries (Ilgen, Fisher, & Taylor, 1979). The Durbin–Watson statistic has a value between 1.90 and 2.10, which is close to 2.00 in all models, indicating that first-order autocorrelation is a minor concern in this dissertation.

Model (1) is used to test the effect of performance feedback on the speed of a firm's internationalization (Hypothesis 1a, 1b, and 1c).

$$\begin{aligned} \text{SPEED_INT}_{i,t,k} = & \beta_0 + \beta_1 \text{PERFEED_ASPL}_{i,t-1} < 0 + \beta_2 \text{PERFEED_ASPL}_{i,t-1} > 0 \\ & + \beta_3 \text{FAFF}_{i,t-1} + \beta_4 \text{AGE}_{i,t-1} + \eta_i + v_t + \varepsilon_{i,t} \end{aligned} \quad (1)$$

where $\text{SPEED_INT}_{i,t,k}$ denotes the proxy of the speed of internationalization for firm i in year t in k dimension. The proxies that represent the speed dimensions are as follows: (1) Percentage change in the ratio of foreign sales to total sales in year t relative to year $t-1$ (FSTSP), which measures the speed of change in the degree of internationalization. (2) Percentage change in the ratio of foreign employees to total Japanese employees in year t relative to year $t-1$ (FETEP), which measures the speed of change in the commitment of foreign resources. (3) Percentage change in the number of foreign subsidiaries in year t relative to year $t-1$ (FAFFP), which measures the speed of change in the scope of foreign resources, another measurement for the speed of change in the commitment of foreign resources. Finally, (4) the percentage change in the number of foreign locations in year t relative to year $t-1$ (FCONP), which measures the speed of change in the breadth of international markets. The formula for the proxies of the speed of internationalization can be summarized as follows:

$$\text{FSTSP}_{i,t} = \frac{\text{FSTS}_{i,t}}{\text{FSTS}_{i,t-1}}; \text{FETEP}_{i,t} = \frac{\text{FETE}_{i,t}}{\text{FETE}_{i,t-1}}; \text{FAFFP}_{i,t} = \frac{\text{FAFF}_{i,t}}{\text{FAFF}_{i,t-1}}; \text{FCONP}_{i,t} = \frac{\text{FCON}_{i,t}}{\text{FCON}_{i,t-1}}$$

where FSTSP denotes the percentage change in the ratio of foreign sales to total sales for firm i in year t relative to year $t-1$. FETEP denotes the percentage change in the ratio of foreign employees to total Japanese employees in year t relative to year $t-1$. FAFFP denotes the percentage change in the number of foreign subsidiaries in year t relative to year $t-1$. FCONP denotes the percentage change in the number of foreign locations in year t relative to year $t-1$.

$\text{PERFEED_ASPL}_{i,t}$ is performance feedback, which is measured as the return on asset (ROA) minus aspiration level for firm i in year t . $\text{PERFEED_ASPL}_{i,t} < 0$ denotes negative performance feedback for firm i in time t and $\text{PERFEED_ASPL}_{i,t} > 0$ denotes positive performance feedback for firm

i in time t . $FAFF_{i,t}$ is the number of foreign affiliates for firm i in year t , controlling for the effect of international experience. $AGE_{i,t}$ is the age of firm i in year t , which is measured by the natural logarithm of years since the firm's foundation year to year t . η_i is firm-fixed effects, v_t is period-fixed effects, and $\varepsilon_{i,t}$ is the error term. Standard errors are clustered at the firm level to adjust for heteroskedasticity and serial correlation.

Model (2) is used to test the effect of slack on the speed of a firm's internationalization (Hypothesis 2a, 2b, and 2c).

$$\begin{aligned} \text{SPEED_INT}_{i,t,k} = & \beta_0 + \beta_1 \text{ABSORBED_SLACK}_{i,t-1} + \beta_2 \text{UNABSORBED_SLACK}_{i,t-1} \\ & + \beta_3 \text{POTENTIAL_SLACK}_{i,t-1} + \beta_4 \text{FAFF}_{i,t-1} + \beta_5 \text{AGE}_{i,t-1} + \eta_i + v_t + \varepsilon_{i,t} \end{aligned} \quad (2)$$

where $\text{ABSORBED_SLACK}_{i,t}$ denotes the absorbed slack, which is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales for firm i in year t . $\text{UNABSORBED_SLACK}_{i,t}$ denotes unabsorbed slack, which is measured as the ratio of quick assets to current liabilities for firm i in year t . $\text{POTENTIAL_SLACK}_{i,t}$ denotes potential slack, which is measured as the ratio of debt to shareholder equity for firm i in year t . Dependent variables and control variables are the same as in model (1).

Model (3) is used to test the moderating effect of slack on the relationship between performance feedback and the speed of internationalization (Hypothesis 3).

$$\begin{aligned} \text{SPEED_INT}_{i,t,k} = & \beta_0 + \beta_1 \text{PERFEED_ASPL}_{i,t-1} < 0 + \beta_2 \text{PERFEED_ASPL}_{i,t-1} > 0 \\ & + \beta_3 \text{ABSORBED_SLACK}_{i,t-1} + \beta_4 \text{UNABSORBED_SLACK}_{i,t-1} + \beta_5 \text{POTENTIAL_SLACK}_{i,t-1} \\ & + \beta_6 \text{FAFF}_{i,t-1} + \beta_7 \text{AGE}_{i,t-1} + \beta_8 \text{ABSORBED_SLACK}_{i,t-1} * \text{PERFEED_ASPL}_{i,t-1} + \\ & \beta_9 \text{UNABSORBED_SLACK}_{i,t-1} * \text{PERFEED_ASPL}_{i,t-1} + \beta_{10} \text{POTENTIAL_SLACK}_{i,t-1} * \\ & \text{PERFEED_ASPL}_{i,t-1} + \eta_i + v_t + \varepsilon_{i,t} \end{aligned} \quad (3)$$

All variables are defined as in previous models. The moderating effects of slack on the relationship between performance feedback and the speed of internationalization is indicated by β_8, β_9 ,

and β_{10} in equation (3), which are the coefficients of the interaction terms between each type of slack and the performance feedback.

Model (4) is used to test the moderating effect of industry global competition on the relationship between performance feedback and the speed of internationalization (Hypothesis 4).

$$\begin{aligned} \text{SPEED_INT}_{i,t,k} = & \beta_0 + \beta_1 \text{PERFEED_ASPL}_{i,t-1} < 0 + \beta_2 \text{PERFEED_ASPL}_{i,t-1} > 0 \quad (4) \\ & + \beta_3 \text{FAFF}_{i,t-1} + \beta_4 \text{AGE}_{i,t-1} + \beta_5 \text{LIT}_{i,j,t-1} + \beta_6 \text{LIT}_{i,j,t-1} * \text{PERFEED_ASPL}_{i,t-1} + \eta_i + v_t + \varepsilon_{i,t} \end{aligned}$$

All variables, except $\text{LIT}_{i,j,t}$, are defined as in previous models. $\text{LIT}_{i,j,t}$ denotes the level of industry global competition, which indicates the level of global competition to which firm i in industry j is exposed to in year t . The coefficient of the interaction term between the level of international linkage and performance feedback (β_6) is of particular interest, as it indicates the moderating effect of industry global competition on the relationship between performance feedback and the speed of internationalization.

Model (5) is used to examine the moderating effect of industry global competition on the relationship between slack and the speed of internationalization (Hypothesis 5).

$$\begin{aligned} \text{SPEED_INT}_{i,t,k} = & \beta_0 + \beta_1 \text{ABSORBED_SLACK}_{i,t-1} + \beta_2 \text{UNABSORBED_SLACK}_{i,t-1} \quad (5) \\ & + \beta_3 \text{POTENTIAL_SLACK}_{i,t-1} + \beta_4 \text{FAFF}_{i,t-1} + \beta_5 \text{AGE}_{i,t-1} + \beta_6 \text{LIT}_{i,j,t-1} \\ & + \beta_7 \text{ABSORBED_SLACK}_{i,t-1} * \text{LIT}_{i,j,t-1} + \beta_8 \text{UNABSORBED_SLACK}_{i,t-1} * \text{LIT}_{i,j,t-1} \\ & + \beta_9 \text{POTENTIAL_SLACK}_{i,t-1} * \text{LIT}_{i,j,t-1} + \eta_i + v_t + \varepsilon_{i,t} \end{aligned}$$

All variables are defined as in previous models. The moderating effect of industry global competition on the relationship between slack and the speed of internationalization are indicated by the coefficients (β_7 , β_8 , and β_9) of the interaction terms between each type of slack and the level of industry global competition.

4.5.2 Behavioral perspective on the foreign location choice

The analyses of the effects of performance feedback and slack on the location choice of firms is performed on a pooled data set of Japanese manufacturing firms with international activities during 1991–2017. The pooled data set contains firm-foreign subsidiary-year observations. More specifically, each observation is a foreign subsidiary of a Japanese firm in a particular year. The foreign location choice of the firm in this dissertation is proxied by nine dimensions of psychic distances. Each proxy of psychic distance—the dependent variable—is constructed in two steps; first, the distance between home country (i.e., Japan) and host country, where each foreign subsidiary located is measured in nine dimensions as shown in Table 4.3. Second, the values of individual dimensions of psychic distance are weighted by the percentage of ownership, which parent companies hold in each foreign subsidiary to truly reflect the investment risk that the parent companies have in proportion to the percentage of ownership. In line with the analysis method for the speed of internationalization in Section 4.5.1, a one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Furthermore, entering a foreign market requires a certain elapsed time between the management's decision and the establishment or application of strategic change in foreign subsidiaries (Ilgen, Fisher, & Taylor, 1979). To correct heteroskedasticity and autocorrelation problems, a generalized least squares (GLS) model was used for empirical testing in this section. The Durbin–Watson statistics range between 1.90 and 2.10, indicating that first-order autocorrelation is a minor concern.

Model (6) is used to test the effect of performance feedback on the location choice of the firm (Hypothesis 6), and model (7) is used to test the effect of slack on location choice of the firm (Hypothesis 7).

$$\begin{aligned} PD_{p,i,t,n} = & \beta_0 + \beta_1 PERFEED_ASPL_{i,t-1} < 0 + \beta_2 PERFEED_ASPL_{i,t-1} > 0 \\ & + \beta_3 FAFF_{i,t-1} + \beta_4 AGE_{i,t-1} + \eta_i + v_t + \varepsilon_{i,t} \end{aligned} \quad (6)$$

$$PD_{p,i,t,n} = \beta_0 + \beta_1 ABSORBED_SLACK_{i,t-1} + \beta_2 UNABSORBED_SLACK_{i,t-1} + \beta_3 POTENTIAL_SLACK_{i,t-1} + \beta_4 FAFF_{i,t-1} + \beta_5 AGE_{i,t-1} + \eta_i + v_t + \varepsilon_{i,t} \quad (7)$$

where $PD_{p,i,t,n}$ denotes the measurement of psychic distance between Japan and country n , in dimension p , for firm i , and in year t . Proxies of the nine dimensions of psychic distance are ECON, FINAN, POLITC, ADMIN, CUL_G, DEMO, KNOW, GCON, and GEO, which denote the cross-national distance in economic, financial, political, administrative, and cultural distance stimuli from the GLOBE project, demographic, knowledge, global connectedness, and geographic, respectively (Berry et al., 2010; House et al., 2004). Other variables are defined as in previous models. The effects of international experience and firm age are controlled, as in earlier models.

Model (8) tests the moderating effect of slack on the relationship between performance feedback and the location choice of firms (Hypothesis 8).

$$PD_{p,i,t,n} = \beta_0 + \beta_1 PERFEED_ASPL_{i,t-1} < 0 + \beta_2 PERFEED_ASPL_{i,t-1} > 0 + \beta_3 ABSORBED_SLACK_{i,t-1} + \beta_4 UNABSORBED_SLACK_{i,t-1} + \beta_5 POTENTIAL_SLACK_{i,t-1} + \beta_6 FAFF_{i,t-1} + \beta_7 AGE_{i,t-1} + \beta_8 ABSORBED_SLACK_{i,t-1} * PERFEED_ASPL_{i,t-1} + \beta_9 UNABSORBED_SLACK_{i,t-1} * PERFEED_ASPL_{i,t-1} + \beta_{10} POTENTIAL_SLACK_{i,t-1} * PERFEED_ASPL_{i,t-1} + \eta_i + v_t + \varepsilon_{i,t} \quad (8)$$

All variables are defined as in previous models. The moderating effect of slack on the relationship between performance feedback and psychic distance is indicated by the coefficients (β_8 , β_9 , and β_{10}) of the interaction terms between each type of slack and the performance feedback. In line with models (1) to (7), the effects of international experience and age of firms are controlled. Table 4.5 summarizes the research objectives and research methodology in this dissertation.

4.6 Summary of research methodology

Table 4.5 Summary of research methodology

	Objectives of the study				
	To understand the behavior of multinational firms in their internationalization process from the perspective of the behavioral theory of the firm		To understand the behavior of multinational firms in their FDI location choice from the perspective of the behavioral theory of the firm		To understand the effect of industry global competition on internationalization behavior of the firm
	Research questions				
	1. How and to what extent does performance feedback of firms influence the speed dimension of a firm’s internationalization process?	2. How and to what extent does organizational slack influence the speed dimension of a firm’s internationalization process?	3. How and to what extent does performance feedback of firms influence their FDI location choice?	4. How and to what extent does organizational slack influence a firm’s FDI location choice?	5. How and to what extent does industry global competition moderate the effects of performance feedback and organizational slack on the speed of a firm’s internationalization process?
Research Method	Quantitative research method				
Sample	Publicly listed Japanese firms in the manufacturing sector during 1990–2017 As of March 31, 2018, there were 2,068 firms listed on the first section of the Tokyo Stock Exchange. Among them, 815 firms were in the manufacturing sector and 693 were actively involved in internationalization activities. The number of sample firms varies across years.				
Data collection	1. Japanese corporate financial data is from the NEEDS. 2. FDI data of Japanese firms is retrieved from Kaigai Shinshutsu Kigyo Souran (Facts & Figures of Japanese Overseas Investment by firms) published by Toyo Keizai.				
Analysis method	Regression analysis 1. Panel, fixed effect OLS regressions are applied to examine the speed of internationalization processes 2. Time series, GLS regressions are applied to study location choices				
Hypotheses for testing research questions	H1a, H1b, H1c Model (1)	H2a, H2b, H2c, H3 Models (2) and (3)	H6 Model (6)	H7, H8 Models (7) and (8)	H4 and H5 Models (4) and (5)

CHAPTER 5

EMPIRICAL RESULTS AND DISCUSSIONS

5.1 Study of a behavioral perspective on the speed of internationalization

5.1.1 Main results and discussions

Table 5.1 presents the summary of descriptive statistics for key variables of a sample of 7,404 firm-year observations during 1991–2017. To reduce the potential effects of extreme values, I winsorize all firm-level variables at the 0.50 and 99.5 percentiles. On average, the speed of internationalization, as measured by the percentage change in the number of foreign affiliates and subsidiaries (FAFFP), and the percentage change in the ratio of foreign sales to total sales (FSTSP) is slightly higher than the speed of internationalization, as measured by the percentage change in the ratio of foreign employees to total Japanese employees (FETEP), and the percentage change in the number of foreign locations (FCONP). This suggests that Japanese firms internationalize by establishing new foreign subsidiaries or increasing international sales. This sounds reasonable because parent firms can control the strategy to establish new foreign subsidiaries or increase sales to international markets. In contrast, hiring more employees at foreign affiliates might also depend on the partners of those foreign affiliates, and expanding business to new countries is more difficult than establishing new subsidiaries in a country with presence. On average, firms in the full sample have about 15.16 foreign affiliates, and 4.12 years of age. The level of global competition (LIT) ranges between 1 (i.e., high level of global competition) and 0 (i.e., low level of global competition) with the mean value of 0.41. For key explanatory variables, performance feedback (PERFEED_ASPL) of firms in the full sample has the minimum value of -16.80 (i.e., performance below aspiration level), maximum value of 12.77 (i.e., performance above aspiration level), and a mean value of -0.97. The ratio of SG&A to total sales, which is the proxy for absorbed slack, has a mean value of 0.20. The ratio of quick assets to total liabilities, the proxy for unabsorbed slack, has the mean value of 1.50. The ratio of debt to shareholder's equity, the proxy for potential slack, has a mean value of 1.53.

Table 5.2 presents the correlation coefficients between key firm-level variables for a sample of 7,404 firm-year observations during 1991–2017. As expected, FAFFP and FCONP, which measure the percentage change in the number of foreign subsidiaries and the percentage change in the number of foreign locations, are highly correlated ($r=0.76$, significance at 1% level). This high correlation is not a concern because these two variables are dependent variables applied to regression models separately. All other correlation coefficients, particularly for key independent variables, are below 0.40, indicating that multicollinearity is unlikely to be a concern. The three types of slack have low correlation coefficients, that is, 0.28 for absorbed slack (ABSORBED_SLACK) and unabsorbed slack (UNABSORBED_SLACK), -0.17 for absorbed slack (ABSORBED_SLACK) and potential slack (POTENTIAL_SLACK), and -0.39 for unabsorbed slack (UNABSORBED_SLACK) and potential slack (POTENTIAL_SLACK), confirming that each type of slack has distinct purpose and their effect should be tested separately. Furthermore, low correlation ($r = 0.14$, significance at 1% level) between international experience (FAFF) and firm's age (LOG_AGE) suggests that the international experience of firm is less relevant to its age.

Table 5.1: Descriptive statistics of key variables – study on the speed of internationalization

This table displays the summary statistics for key variables in the full sample period. FETEP denotes the speed of change in the commitment of foreign resources, as measured by the percentage change in the ratio of foreign employees to total Japanese employees (FETE) in year t when compared to year $t-1$. FAFFP denotes the speed of change in the scope of foreign resources, as measured by the percentage change in the number of foreign affiliates and subsidiaries in year t when compared to year $t-1$. FSTSP denotes the speed of change in the degree of internationalization, as measured by the percentage change in the ratio of foreign sales to total sales (FSTS) in year t when compared to year $t-1$. FCONP denotes the speed of change in the breath of international markets, as measured by the percentage change in the number of foreign locations in year t when compared to year $t-1$. LIT denotes the level of international linkage, which measures the level of industry global competition to which firms are exposed. FAFF denotes the number of affiliates and subsidiaries. LOG_AGE denotes the natural logarithm of years since the firm's foundation year. PERFEED_ASPL denotes the performance feedback, as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK denotes the absorbed slack, as measured by the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK denotes the unabsorbed slack, as measured by the ratio of quick assets to current liabilities. POTENTIAL_SLACK denotes the potential slack, as measured by the ratio of debt to shareholder's equity.

	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
FETEP	1.03	1.01	1.78	0.46	0.26	7404
FAFFP	1.04	1.00	1.50	0.87	0.13	7404
FSTSP	1.05	1.03	1.62	0.35	0.16	7404
FCONP	1.03	1.00	1.33	0.90	0.09	7404
LIT	0.41	0.42	1.00	0.00	0.17	7404
FAFF	15.16	10.00	275.00	1.00	18.55	7404
LOG_AGE	4.12	4.14	4.91	0.69	0.34	7404
PERFEED_ASPL	-0.97	-0.77	12.77	-16.80	3.48	7404
ABSORBED_SLACK	0.20	0.18	0.62	0.04	0.09	7404
UNABSORBED_SLACK	1.50	1.15	9.73	0.29	1.20	7404
POTENTIAL_SLACK	1.53	1.05	17.60	0.07	1.87	7404

Table 5.2: Correlation coefficients – study on the speed of internationalization

This table reports the correlation coefficients of key variables for the sample of 7404 firm-year observations during the period 1991–2017. All variables are defined as shown in Table 5.1.

	1	2	3	4	5	6	7	8	9	10
1 FETEP										
2 FAFFP	0.22 ***									
3 FSTSP	0.01	0.04 ***								
4 FCONP	0.16 ***	0.76 ***	0.03 ***							
5 LIT	-0.02	0.01	-0.03 **	0.01						
6 FAFF	-0.03 **	0.00	-0.04 ***	0.00	0.14	***				
7 LOG_AGE	0.01	-0.05 ***	0.03 ***	-0.04 ***	0.00	0.14 ***	***			
8 PERFEED_ASPL	-0.01	0.03 **	0.03 ***	0.02 *	-0.02	**	0.00	0.00		
9 ABSORBED_SLACK	-0.02 *	-0.02	-0.02 *	0.01	0.06	***	0.01	-0.14 ***	-0.04 ***	
10 UNABSORBED_SLACK	-0.01	0.00	-0.02 *	0.00	0.04	***	-0.16 ***	-0.22 ***	0.05 ***	0.28 ***
11 POTENTIAL_SLACK	0.01	-0.05 ***	-0.03 ***	-0.05 ***	-0.03	**	0.08 ***	0.11 ***	-0.17 ***	-0.17 ***

Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

A series of panel OLS regressions is estimated to empirically test the effects of performance feedback and slack on the speed of change in the multidimensions of a firm's internationalization process. The Hausman test suggests that fixed-effects models are preferable to random-effects models; therefore, I estimate the panel OLS regressions that include the firm- and year-fixed effects.

Table 5.3 presents the results of model (1), which empirically tests the effect of performance feedback on the speed of internationalization in the following three dimensions of speed of change: degree of internationalization (FSTSP), commitment of foreign resources (FETEP and FAFFP), and breadth of international markets (FCONP). After controlling for a firm's international experience (i.e., the one-year lagged firm's number of foreign subsidiaries) and age, the regression results, which test Hypothesis (1a), (1b), and (1c), have provided partial support to the hypothesis. Based on the argument of problemistic search, Hypotheses (1a), (1b), and (1c) predict that the speed of internationalization in all three dimensions would increase as the performance of firm relative to the aspiration level decreases. Therefore, the expected sign for the coefficient of performance feedback on the speed of internationalization should be negative. More specifically, I expect to observe a negative relationship between performance feedback and the speed of internationalization. By disaggregating the effects of performance feedback into performance below aspiration level (PERFEED_ASPL<0 or performance feedback <0) and performance above aspiration level (PERFEED_ASPL>0 or performance feedback >0), it is possible to capture the non-linear relationship between performance feedback and the speed of internationalization.

Interestingly, the regression results in Model (1) present the inverted U-shaped relationship as indicated by the positive coefficient for the performance below the aspiration level, but the negative coefficient for performance above the aspiration level. This inverted U-shaped relationship suggests that firms that have performance around aspiration levels exhibit the highest speed of internationalization. The positive coefficients for firms performing below aspirations are statistically significant ($p < 0.01$) only for the prediction of speed of change in the commitment of foreign resources (FETEP and FAFFP) and the speed of change in the breadth of international market (FCONP). However,

they are not statistically significant for the prediction of the speed of change in the degree of internationalization (FSTSP). Meanwhile, the negative coefficients for firms performing above aspirations are statistically significant ($p < 0.01$) only for the prediction of the speed of change in the degree of internationalization (FSTSP), but not statistically significant for the speed of change in the commitment of foreign resources (FETEP and FAFFP) and the speed of change in the breadth of international markets (FCONP). A positive coefficient for performance below the aspiration level suggests that firms tend to decrease the speed of internationalization in terms of foreign employees (FETEP), number of foreign affiliates and subsidiaries (FAFFP), and the number of foreign locations (FCONP) as performance falls below aspiration levels. This result is contradictory to Hypothesis (1b) and (1c). The negative coefficients between performance above aspiration levels and the speed of change in the degree of internationalization have provided partial support to Hypothesis (1a). More specifically, firms tend to decrease their speed of internationalization in terms of the degree of internationalization (FSTSP) when their performance rises above the aspiration level.

The coefficients of performance feedback are not consistently significant throughout all dimensions of the speed of internationalization. This result could imply that firms performing above and below aspiration levels might pursue different internationalization strategies in response to the performance feedback. As performance improves, below-aspiration firms would choose to increase their speed of internationalization by recruiting more foreign employees, creating new foreign subsidiaries, or expanding business into new countries. Above-aspiration firms would behave differently; as performance exceeds the aspiration level, they would decrease their speed of internationalization by lowering the proportion of foreign sales to total corporate sales.

The inverted U-shaped relationship between performance feedback and the speed of internationalization could indicate that the magnitude of attainment discrepancy between performance and aspiration level negatively influences the speed of internationalization. The more diverse a firm's performance is from its aspiration level, whether good or bad, the more likely it is to decrease its speed of internationalization. The closer a firm is to its aspired level of performance, the more likely it is to

take risky strategic actions, that is, increase the speed of internationalization to close the gap between performance and aspiration level. This behavior of Japanese firms could be explained by the concept of shifts in attention between survival and aspiration level provided by March and Shapira (1987, 1992), which recognizes such process of decision-making as the attention-based view (Ocasio, 1997; Ocasio, Laamanen, & Vaara, 2018). The risk preference of a firm's decision makers depends on their focus, either survival or aspiration level, and whether they see the gap in their level and the aspiration level as a threat or potential opportunity (Shepherd, McMullen, & Ocasio, 2017). Firms that perform merely below aspiration level may perceive this gap as attainable discrepancy. Therefore, they would focus on the aspiration level, and adopt a risky strategy, that is, internationalization to improve performance until it reaches the aspired goal. On the other hand, firms that perform much lower than aspiration levels (i.e., industry average) might perceive the gap as unattainable discrepancy and recognize it as a threat. They might shift focus to market survival and become risk averse (March & Shapira, 1987, 1992; Ocasio, 1997; Miller & Chen, 2004). The threat rigidity theory could also explain the lower speed of internationalization when firms recognize the attainment discrepancy as a threat, which argues that the propensity to take risks decreases under threats to survival (Staw, Sandelands, & Dutton, 1981). This theory suggests that, facing a threat, firms will likely not explore new things, reduce flexibility, and seal off new information (Staw et al., 1981; Greve, 2011; Shimizu, 2007).

Model 1

Table 5.3: Regressions of performance feedback on the speed of internationalization

This table presents the results of panel OLS regressions of performance feedback on the speed of internationalization for a sample of publicly listed firms in Japan. The speed of internationalization is measured as FSTSP, FETEP, FAFFP, and FCONP. FSTSP is measured as the percentage change in the ratio of foreign sales to total sales in year t when compared to year $t-1$. FETEP is measured as the percentage change in the ratio of foreign employees to total Japanese employees (FETE) in year t when compared to year $t-1$. FAFFP is measured as the percentage change in the number of foreign affiliates and subsidiaries in year t when compared to year $t-1$. FCONP is measured as the percentage change in the number of foreign locations in year t when compared to year $t-1$. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback, as measured by the firm's return on asset (ROA) minus aspiration level. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variables	FSTSP		FETEP		FAFFP		FCONP	
Intercept	1.0731 (0.1076)	***	1.1051 (0.2341)	***	1.4185 (0.0844)	***	1.29185 (0.0651)	***
PERFEED_ASPL(-1) <0	0.0007 (0.0010)		0.0039 (0.0012)	***	0.0018 (0.0005)	***	0.00142 (0.0004)	***
PERFEED_ASPL(-1) >0	-0.0032 (0.0010)	***	-0.0026 (0.0018)		-0.0009 (0.0008)		-0.0002 (0.0006)	
FAFF(-1)	-0.0001 (0.0002)		-0.0022 (0.0007)	***	-0.0055 (0.0004)	***	-0.0032 (0.0003)	***
LOG_AGE(-1)	-0.0059 (0.0262)		-0.0069 (0.0573)		-0.0722 (0.0208)	***	-0.0526 (0.0160)	***
Firm-fixed effect	Yes		Yes		Yes		Yes	
Year-fixed effect	Yes		Yes		Yes		Yes	
R^2	0.1115		0.07648		0.1028		0.0914	
Adjusted R^2	0.0459		0.01843		0.0551		0.0431	
F-statistic	1.6991	***	1.31746	***	2.1546	***	1.8921	***
Firms included	635		686		705		705	
Observations	9640		12074		14526		14526	

Table 5.4 presents the result of model (2), which empirically tests the effects of organizational slack on the speed of internationalization. After controlling for a firm's international experience (i.e., the one-year-lagged number of foreign subsidiaries) and age, the regression results provide partial support to Hypothesis (2). Based on the argument of slack search, Hypotheses (2a), (2b), and (2c) predict that the speed of firm internationalization is likely to increase as slack increases. Therefore, the expected sign for the coefficients of absorbed slack, as measured by the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales, and unabsorbed slack, as measured by the ratio of quick

assets to total liabilities, on the speed of internationalization, should be positive. The coefficient of potential slack, as measured by the ratio of debt to equity, should be negative.

The regression results of model (2) present the significant negative coefficients for potential slack, suggesting that more potential slack (i.e., lower debt-equity ratio) tends to increase the speed of change in the degree of internationalization (FSTSP), the speed of change in the commitment of foreign resources (FAFFP), and the speed of change in the breadth of international markets (FCONP). Firms with potential slack are more likely to increase their speed of internationalization by increasing exports or international sales, creating new foreign subsidiaries, or expanding business into new countries. These results support Hypotheses (2a), (2b), and (2c) and are consistent with the notion of slack search that firms are likely to increase the speed of internationalization if they have the ability to raise financial resources through debt in the future. Such ability to secure financial resources for future investment could lessen the anxiety of a risky strategy (Chang, Jaw, & Chiu, 2012).

Unabsorbed slack, as measured by the quick ratio, exhibits negative coefficients with the speed of change in the commitment of foreign resources (FAFFP) and the speed of change in the breadth of foreign markets (FCONP). These empirical results are contradictory to the prediction in Hypotheses (2b) and (2c). Firms tend to increase their speed of internationalization by creating new foreign subsidiaries (FAFFP) or expanding business to new countries (FCONP) even in case of low liquidity. This finding is not consistent with the concept of slack search, and thus, required further study to understand why firms with lower liquidity increase their speed of internationalization. As expected, absorbed slack, which indicates excess manpower in sales, general, and administrative functions (e.g., Singh, 1986; Vanacker, Collewaert, & Zahra, 2017), did not exhibit a significant relationship with any dimension of speed of internationalization.

Model 2

Table 5.4: Regressions of slack on the speed of internationalization

This table presents the results of panel OLS regressions of slack on the speed of internationalization for a sample of publicly listed firms in Japan. The speed of internationalization is measured as FSTSP, FETEP, FAFFP, and FCONP. FSTSP is measured as the percentage change in the ratio of foreign sales to total sales in year t when compared to year $t-1$. FETEP is measured as the percentage change in the ratio of foreign employees to total Japanese employees (FETE) in year t when compared to year $t-1$. FAFFP is measured as the percentage change in the number of foreign affiliates and subsidiaries in year t when compared to year $t-1$. FCONP is measured as the percentage change in the number of foreign locations in year t when compared to year $t-1$. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variables	FSTSP		FETEP		FAFFP		FCONP	
Constant	1.0642 *** (0.1085)		1.0609 *** (0.2346)		1.4141 *** (0.0845)		1.2881 *** (0.0649)	
FAFF(-1)	0.0000 (0.0003)		-0.0022 *** (0.0007)		-0.0055 *** (0.0004)		-0.0032 *** (0.0003)	
LOG_AGE(-1)	-0.0051 (0.0258)		0.0006 (0.0574)		-0.0675 *** (0.0207)		-0.0496 *** (0.0159)	
ABSORBED_SLACK (-1)	0.0004 (0.0008)		0.0006 (0.0009)		-0.0003 (0.0004)		-0.0001 (0.0003)	
UNABSORBED_SLACK (-1)	0.0000 (0.0000)		-0.0001 (0.0000)		-0.0001 *** (0.0000)		-0.00003 ** (0.0000)	
POTENTIAL_SLACK (-1)	-0.0034 ** (0.0016)		0.0024 (0.0021)		-0.0023 ** (0.0011)		-0.0018 *** (0.0007)	
Firm-fixed effect	Yes		Yes		Yes		Yes	
Year-fixed effect	Yes		Yes		Yes		Yes	
R^2	0.1111		0.0759		0.1026		0.0910	
Adjusted R^2	0.0452		0.0177		0.0547		0.0425	
F-statistic	1.6862 ***		1.3039 ***		2.1431 ***		1.8763 ***	
Firms included	765		687		707		707	
Observations	12110		12086		14536		14536	

Table 5.5 presents the results of model (3), which empirically tests the moderating effect of slack on the relationship between performance feedback and the speed of internationalization³. The regression results do not support Hypothesis (3). The interaction terms of all types of slack and performance feedback are not statistically significant. Contrary to the prediction in Hypothesis (3), the empirical results suggest that slack does not strengthen or weaken the relationship between performance feedback and the speed of internationalization. A plausible explanation is that firms primarily focus on performance feedback or organizational slack when making critical decisions to change the speed of internationalization. These contradictory results require further investigation and reveal possibilities for future research.

³ To confirm the moderating effect of slack in model (3), I re-test the model by adding only the interaction term of slack and performance feedback, without the slack variable as a main effect (see the full results in Table A1 of Appendix A). The formula is $SPEED_INT_{i,t,k} = \beta_0 + \beta_1 PERFEED_ASPL_{i,t-1} < 0 + \beta_2 PERFEED_ASPL_{i,t-1} > 0 + \beta_3 FAFF_{i,t-1} + \beta_4 AGE_{i,t-1} + \beta_5 ABSORBED_SLACK_{i,t-1} * PERFEED_ASPL_{i,t-1} + \beta_6 UNABSORBED_SLACK_{i,t-1} * PERFEED_ASPL_{i,t-1} + \beta_7 POTENTIAL_SLACK_{i,t-1} * PERFEED_ASPL_{i,t-1} + \eta_i + v_t + \varepsilon_{i,t}$. Similar to the results of model (3) in Table 5.5, the moderating effect of slack generally is not observed. Potential slack has moderating effect in the prediction of the speed of change in the degree of internationalization (FSTSP), but only at significance level 0.10. The coefficients for other interaction term between slack and performance feedback are all insignificant and the coefficients of performance feedback, which is the main interest are not significantly different from the main results. However, the R^2 value of model (3), with both main and moderating effect of slack, is higher (R^2 of model (3) in the main analysis for FSTSP, FETEP, FAFFP, and FCONP, being 0.1124, 0.0775, 0.1034, and 0.0918, respectively. The R^2 of this comparative model for FSTSP, FETEP, FAFFP, and FCONP is 0.1122, 0.0769, 0.1027, and 0.0914, respectively). In conclusion, the result of this additional test is consistent with the main result in model (3); however, including both the direct effect and moderating effect of slack in the model can better explain the behavior of firms in changing the speed of their internationalization process.

Model 3

Table 5.5: Regressions of the moderating effect of slack on the relationship between performance feedback and the speed of internationalization

This table presents the results of panel OLS regressions of the moderating effect of slack on the relationship between performance feedback and the speed of internationalization for a sample of publicly listed firms in Japan. The speed of internationalization is measured as FSTSP, FETEP, FAFFP, and FCONP. FSTSP is measured as the percentage change in the ratio of foreign sales to total sales in year t when compared to year $t-1$. FETEP is measured as the percentage change in the ratio of foreign employees to total Japanese employees (FETE) in year t when compared to year $t-1$. FAFFP is measured as the percentage change in the number of foreign affiliates and subsidiaries in year t when compared to year $t-1$. FCONP is measured as the percentage change in the number of foreign locations in year t when compared to year $t-1$. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variables	FSTSP		FETEP		FAFFP		FCONP	
Constant	1.0665 (0.1095)	***	1.0839 (0.2314)	***	1.4192 (0.0841)	***	1.2903 (0.0646)	***
PERFEED_ASPL(-1)<0	-0.0013 (0.0019)		0.0080 (0.0022)	***	0.0024 (0.0010)	**	0.0014 (0.0007)	**
PERFEED_ASPL(-1)>0	-0.0044 (0.0019)	**	0.0003 (0.0025)		-0.0001 (0.0012)		0.0000 (0.0009)	
FAFF (-1)	-0.0001 (0.0002)		-0.0022 (0.0007)	***	-0.0055 (0.0004)	***	-0.0032 (0.0003)	***
LOG_AGE(-1)	-0.0052 (0.0259)		-0.0044 (0.0565)		-0.0688 (0.0206)	***	-0.0507 (0.0158)	***
ABSORBED_SLACK (-1)	0.0003 (0.0008)		0.0009 (0.0010)		-0.0002 (0.0004)		0.0000 (0.0003)	
UNABSORBED_SLACK (-1)	0.0000 (0.0000)		-0.0001 (0.0000)	*	-0.0001 (0.0000)	***	0.0000 (0.0000)	**
POTENTIAL_SLACK (-1)	-0.0020 (0.0016)		0.0038 (0.0023)	*	-0.0017 (0.0012)		-0.0013 (0.0008)	*
ABSORBED_SLACK (-1)	0.0000		-0.0001		0.0000		0.0000	
*PERFEED_ASPL (-1)	(0.0001)		(0.0001)		(0.0000)		(0.0000)	
UNABSORBED_SLACK (-1)	0.0000		0.0000		0.0000		0.0000	
*PERFEED_ASPL (-1)	(0.0000)		(0.0000)		(0.0000)		(0.0000)	
POTENTIAL_SLACK (-1)	0.0003		-0.0001		0.0000		0.0000	
*PERFEED_ASPL (-1)	(0.0002)		(0.0002)		(0.0001)		(0.0001)	
Firm-fixed effect	Yes		Yes		Yes		Yes	
Year-fixed effect	Yes		Yes		Yes		Yes	
R^2	0.1124		0.0775		0.1034		0.0918	
Adjusted R^2	0.0462		0.0190		0.0553		0.04318	
F-statistic	1.6970	***	1.3240	***	2.1500	***	1.88669	***
Firms included	635		686		705		705	
Observations	9637		12074		14520		14520	

Table 5.6 presents the results of model (4), which empirically tests the moderating effect of industry global competition on the relationship between performance feedback and the speed of internationalization. As increasing global competition would encourage firms to expand their businesses into international markets more rapidly, to capture the first-mover advantage (Chang & Rhee, 2011), Hypothesis (4) predicts that industry global competition strengthens the effect of performance feedback on the speed of internationalization. The regression results of model (4) provide support to Hypothesis (4), as the interaction terms of industry global competition (LIT) and performance feedback (PERFEED_ASPL) are negative and statistically significant. The empirical results suggest that industry global competition strengthens the effect of performance feedback on the speed of change in the degree of internationalization (FSTSP), the speed of change in the commitment of foreign resources (FETEP), and the speed of change in the breadth of international markets (FCONP). Particularly, firms in a highly competitive industry tend to exhibit faster internationalization by increasing their proportion of foreign sales (FSTSP), hiring more foreign employees (FETEP), and expanding business to new markets (FCONP). This empirical result provides additional support to Hypothesis (1).

The negative and significant coefficients of the interaction terms between global competition and performance feedback could be interpreted as implying that the effect of performance feedback on the speed of internationalization is different for each industry, depending on the intensity of global competition in that industry. Considering only the main effect of performance feedback on the speed of change in the degree of internationalization (FSTSP) in the baseline model (i.e., model (1)), the coefficient of the performance feedback is not significant for the negative performance feedback (PERFEED_ASPL<0) but is statistically significant for the positive performance feedback (PERFEED_ASPL>0). However, when the effect of industry global competition is added in model (4), the coefficient of the performance feedback becomes statistically significant ($p<0.05$) for the negative performance feedback (PERFEED_ASPL<0) but not significant for the positive performance feedback (PERFEED_ASPL>0). The significance of the results in the estimations of other speed measurements (i.e., FETEP, FAFFP, and FCONP) remains unchanged. These results suggest that the moderating effect of industry global competition (PERFEED_ASPL x LIT) is more evident in firms with negative

performance feedback. That is, in a highly competitive industry, firms with negative performance tend to exhibit faster internationalization than those with positive performance. Note that by adding the interaction term between industry global competition and performance feedback into the regression, model (4) is a better fit in estimating the speed of firm internationalization (R^2 in model (4) is between 0.0772 and 0.1117 while R^2 in model (1)—the baseline model—is between 0.07648 and 0.1115).

Model 4

Table 5.6: Regressions of the moderating effect of industry global competition on the relationship between performance feedback and the speed of internationalization

This table presents the results of panel OLS regressions of the moderating effect of industry global competition on the relationship between performance feedback and the speed of internationalization for a sample of publicly listed firms in Japan. The speed of internationalization is measured as FSTSP, FETEP, FAFFP, and FCONP. FSTSP is measured as the percentage change in the ratio of foreign sales to total sales in year t when compared to year $t-1$. FETEP is measured as the percentage change in the ratio of foreign employees to total Japanese employees (FETE) in year t when compared to year $t-1$. FAFFP is measured as the percentage change in the number of foreign affiliates and subsidiaries in year t when compared to year $t-1$. FCONP is measured as the percentage change in the number of foreign locations in year t when compared to year $t-1$. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. LIT is the level of international linkage, which measures the level of global competition to which firms are exposed. PERFEED_ASPL is the performance feedback as measured by the firm's return on asset (ROA) minus aspiration level. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variables	FSTSP		FETEP		FAFFP		FCONP	
Constant	1.0835	***	1.0725	***	1.4090	***	1.2856	***
	(0.1098)		(0.2337)		(0.0839)		(0.0645)	
PERFEED_ASPL (-1)<0	0.0032	**	0.0083	***	0.0021	***	0.0021	***
	(0.0015)		(0.0023)		(0.0007)		(0.0005)	
PERFEED_ASPL (-1)>0	-0.0005		0.0020		-0.0006		0.0004	
	(0.0019)		(0.0028)		(0.0010)		(0.0007)	
FAFF (-1)	0.0000		-0.0021	***	-0.0056	***	-0.0032	***
	(0.0002)		(0.0007)		(0.0004)		(0.0003)	
LOG_AGE (-1)	-0.0055		0.0028		-0.0677	***	-0.0501	***
	(0.0266)		(0.0574)		(0.0206)		(0.0158)	
LIT(-1)	-0.0299		-0.0221		-0.0230		-0.0213	
	(0.0330)		(0.0522)		(0.0258)		(0.0176)	
PERFEED_ASPL (-1) x LIT (-1)	-0.0051	*	-0.0115	**	-0.0006		-0.0014	*
	(0.0028)		(0.0053)		(0.0011)		(0.0008)	
Firm-fixed effect	Yes		Yes		Yes		Yes	
Year-fixed effect	Yes		Yes		Yes		Yes	
R^2	0.1117		0.0772		0.1048		0.0923	
Adjusted R^2	0.0455		0.0190		0.0571		0.0439	
F-statistic	1.6867	***	1.3271	***	2.1983	***	1.9081	***
Firms included	633		680		698		698	
Observations	9553		11980		14396		14396	

Table 5.7 presents the results of model (5), which empirically tests the moderating effect of industry global competition on the relationship between slack and the speed of internationalization. Based on the argument that intense global competition would drive firms to expand business into foreign markets more rapidly (Chang & Rhee, 2011), Hypothesis (5) predicts that industry global competition strengthens the effect of slack on the speed of internationalization. The coefficients of the interaction terms between industry global competition and slack are statistically significant for the relationship between (1) absorbed slack and the speed of change in the breadth of international markets (FCONP); (2.1) unabsorbed slack and the speed of change in the commitment of foreign resources (FAFFP); (2.2) unabsorbed slack and the speed of change in the breadth of international markets (FCONP); (3.1) potential slack and the speed of change in the commitment of foreign resources (FAFFP); finally, (3.2) potential slack and the speed of change in the breadth of international markets (FCONP). The significant and positive coefficient for the interaction terms of absorbed slack, and the significant and negative coefficients for the interaction terms of potential slack support Hypothesis (5). That is, with organizational slack (absorbed slack as measured by the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales, and potential slack, as measured by the ratio of debt to shareholder's equity), firms in more competitive industries would exhibit higher speed of internationalization. The coefficients for the interaction terms of unabsorbed slack are significant and negative. This finding is contrary to the prediction in Hypothesis (5), but consistent with the finding in model (2). The result emphasizes the importance of further investigation in future. By taking into account the interaction effect between industry global competition and slack, model (5) exhibits better fit in estimating the speed of internationalization (R^2 in model (5) is between 0.0765 and 0.1108, while R^2 in model (2), the baseline model, is between 0.0759 and 0.1111).

The significant coefficients of the interaction terms between global competition and slack suggest that the effect of slack on the speed of internationalization varies across industries, depending on the intensity of global competition in that industry. The main effect of potential slack in model (5) is statistically significant only in estimating the speed of change in the commitment of foreign resources (FAFFP) and the main effect of absorbed slack is statistically significant only in estimating the speed

of change in the breadth of international markets (FCONP). These results suggest that if firms have high potential slack and are in a highly competitive industry, they are likely to increase the speed of internationalization by creating new foreign affiliates (FAFFP). Similarly, if firms have high absorbed slack and are in highly competitive industries, they tend to increase their speed of internationalization by exploring business opportunities in new countries (FCONP).

Note that the control variables in models (1)-(5) have a significant effect on the speed of firm internationalization. Interestingly, the number of foreign subsidiaries (FAFF) has a significant and negative effect on the speed of change in the commitment to internationalization (FETEP and FAFFP) and the speed of change in the breadth of international markets (FCONP). Contrary to theoretical prediction that experiential knowledge in international markets helps firms overcome the liabilities of foreignness (e.g., Johanson & Vahlne, 1977, 1990, 2009; Hilmersson & Jansson, 2012).), and thus, internationalize more rapidly, the empirical findings (the negative coefficients for FAFF) indicate that firms with less international experience tend to expand business to foreign markets at a higher speed. A plausible explanation is that firms with less international experience might want to gain knowledge in international markets and competitive advantage by increasing their speed of internationalization (Freeman, Edwards, & Schroder, 2006; Oviatt & McDougall, 2005). This empirical evidence is worth further investigation in future research. A firm's age also exhibits significant and negative influence on the speed of change in the commitment to internationalization (FAFFP) and on the speed of change in breadth in international markets (FCONP). This empirical finding can be explained by the inertia theory, which states that the structural stability of an organization increases with age. Increasing stability also enhances resistance to organizational change (Kelly & Amburgey, 1991). Table 5.10 summarizes the regression results for the study of behavioral perspectives on the speed of internationalization of firms.

Model 5

Table 5.7: Regressions of the moderating effect of industry global competition on the relationship between slack and the speed of internationalization

This table presents the results of panel OLS regressions of the moderating effect of industry global competition on the relationship between slack and the speed of internationalization for a sample of publicly listed firms in Japan. The speed of internationalization is measured as FSTSP, FETEP, FAFFP, and FCONP. FSTSP is measured as the percentage change in the ratio of foreign sales to total sales in year t when compared to year $t-1$. FETEP is measured as the percentage change in the ratio of foreign employees to total Japanese employees (FETE) in year t when compared to year $t-1$. FAFFP is measured as the percentage change in the number of foreign affiliates and subsidiaries in year t when compared to year $t-1$. FCONP is measured as the percentage change in the number of foreign locations in year t when compared to year $t-1$. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. LIT is the level of international linkage, which measures the level of global competition to which firms are exposed. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variables	FSTSP		FETEP		FAFFP		FCONP	
Constant	1.0775 *** (0.1226)		0.9607 *** (0.2364)		1.3953 *** (0.0873)		1.2860 *** (0.0656)	
FAFF(-1)	-0.0001 (0.0003)		-0.0022 *** (0.0007)		-0.0057 *** (0.0004)		-0.0033 *** (0.0003)	
LOG_AGE(-1)	-0.0031 (0.0274)		0.0249 (0.0568)		-0.0620 *** (0.0207)		-0.0463 *** (0.0157)	
LIT(-1)	-0.0443 (0.0752)		-0.0168 (0.0911)		0.0010 (0.0423)		-0.0192 (0.0280)	
ABSORBED_SLACK (-1)	-0.0006 (0.0011)		0.0004 (0.0015)		-0.0009 (0.0007)		-0.0009 (0.0005)	*
UNABSORBED_SLACK (-1)	0.0001 (0.0001)		0.0000 (0.0001)		0.0000 (0.0000)		0.0000 (0.0000)	
POTENTIAL_SLACK (-1)	-0.0002 (0.0046)		-0.0026 (0.0051)		0.0036 * (0.0022)		0.0018 (0.0014)	
ABSORBED_SLACK (-1)	0.0021 (0.0018)		0.0010 (0.0028)		0.0016 (0.0013)		0.0017 (0.0009)	**
*LIT(-1)	-0.0001 (0.0002)		-0.0003 (0.0002)		-0.0002 (0.0001)	**	-0.0002 (0.0001)	**
UNABSORBED_SLACK (-1)	-0.0001 (0.0002)		-0.0003 (0.0002)		-0.0002 (0.0001)	**	-0.0002 (0.0001)	**
POTENTIAL_SLACK (-1)	-0.0088 (0.0123)		0.0176 (0.0131)		-0.0187 (0.0062)	***	-0.0115 (0.0035)	***
*LIT(-1)								
Firm-fixed effect	Yes		Yes		Yes		Yes	
Year-fixed effect	Yes		Yes		Yes		Yes	
R^2	0.1108		0.0765		0.1058		0.0928	
Adjusted R^2	0.0440		0.0181		0.0578		0.0442	
F-statistic	1.6601 ***		1.3097 ***		2.2071 ***		1.9087 ***	
Firms included	634		681		700		700	
Observations	9554		11990		14402		14402	

5.1.2 Robustness check on the study of speed of internationalization

Tables 5.8 and 5.9 present the results of the robustness check. First, the robustness of my findings is tested using another measurement for the speed of internationalization. More specifically, I test the measurement developed by Vermeulen and Barkema (2002), which is widely used in other studies (e.g., Lin, 2014; Chang & Rhee, 2011). Vermeulen and Barkema (2002) measured the speed of firm internationalization by the average number of sales (AVE_FSALE), average number of foreign employees (AVE_FEMP), average number of foreign affiliates (AVE_FAFF), and the average number of foreign countries (AVE_FCON) per year (i.e., the number of foreign subsidiaries divided by the number of years since the firm's first foreign expansion). As shown in Table 5.8, the empirical results of performance feedback are qualitatively similar to the main results in Tables 5.3 and 5.4. More precisely, the relation between performance feedback and the speed of internationalization exhibits an inverted U-shape. The significant and negative relationship between above-aspiration performance and the average number of foreign employees (AVE_FEMP), and the significant and negative relationship between above-aspiration performance and the average number of foreign countries (AVE_FCON) provides more support to Hypothesis (1b) and (1c).

However, the effects of slack on the speed of internationalization are contrary to Hypothesis (2a), (2b), and (2c), and are different from the regression results in the main study. More particularly, absorbed slack has significant and negative effect on the prediction of average foreign sales (AVE_FSALE) and average foreign employees (AVE_FEMP). Unabsorbed slack has significant and negative effect on average foreign sales (AVE_FSALE). Potential slack has significant and negative effect on average foreign sales (AVE_FSALE) and average foreign subsidiaries (AVE_FAFF). The coefficients of slack are contrary to the prediction in Hypothesis (2a), (2b), and (2c). Using the measurement of Vermeulen and Barkema (2002), firms that have slack tend to decrease their speed of internationalization in terms of foreign sales, foreign employees, foreign subsidiaries, and foreign countries. Although these results are contrary to the notion of slack search, they provide evidence to

confirm my assumption that the traditional measurement of the speed of internationalization may not accurately measure the speed dimension.

The second robustness check included R&D intensity and distance from bankruptcy as additional control variables. R&D intensity and distance from bankruptcy influence the decision on internationalization of firms in prior studies (e.g., Iyer & Miller, 2008; March & Shapira, 1992; Chen & Miller, 2007). Data on R&D expenses and retained earnings, which are necessary to calculate distance from bankruptcy, are available in the Nikkei NEEDS database for only after 1999. The panel data for regression analyses in Table 5.9 are for 1999–2017. R&D intensity was measured by the ratio of R&D expenditures to total sales. Distance from bankruptcy is the Altman's (1983)' Z score, which is calculated by $(1.2 \times \text{working capital divided by total assets}) + (1.4 \times \text{retained earnings divided by total assets}) + (3.3 \times \text{income before interest expense and taxes divided by total assets}) + (0.6 \times \text{market value of equity divided by total liability}) + (1.0 \times \text{sales divided by total assets})$. A lower Z value means a higher likelihood of firm bankruptcy.

The regression results in Table 5.9 are qualitatively the same as in the main results. The inverted U-shaped relationship between performance feedback and the speed of internationalization is still evident. Potential slack is negatively correlated to the speed of change in the degree of internationalization (FSTSP), to the speed of change in the commitment of foreign resources (FAFFP) and to the speed of change in the breadth of international markets (FCONP), providing additional support to Hypothesis (2a), (2b), and (2c). As expected, R&D intensity, as measured by the ratio of research and development expenses to sales, which reflects a firm's competitive advantage, exhibits a significant and positive effect on the speed of change in the commitment of foreign resources (FAFFP). The Altman's Z-score, as a proxy for the distance from bankruptcy, presents a significant and positive effect on the speed of change in the commitment of foreign resources (FAFFP) and on the speed of change in the breadth of foreign markets (FCONP). The positive coefficient for the Altman's Z-score suggests that firms would increase the speed of internationalization if they were unlikely to go bankrupt

(i.e., high Altman's Z score). Table 5.11 summarizes the regression results for robustness check for the study of a behavioral perspective on the speed of internationalization of firms.

Table 5.8: Robustness check for other measurements of the speed of internationalization

This table presents the results of robustness check for the effects of performance feedback and slack on the speed of internationalization for a sample of publicly listed firms in Japan. The speed of internationalization is measured as AVE_FSALE, AVE_FEMP, AVE_FAFF, and AVE_FCON. AVE_FSALE is measured by the average number of foreign sales. AVE_FEMP is measured by the average number of foreign employees. AVE_FAFF is measured by the average number of foreign affiliates. AVE_FCON is measured by the average number of foreign countries in which the firm invests. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variables	AVE_FSALE		AVE_FEMP		AVE_FAFF		AVE_FCON	
Constant	1924.14 *** (664.46)		0.8091 (11.4374)		0.4098 (0.0690)	***	0.3480 (0.0579)	***
PERFEED_ASPL (-1)<0	14.4396 *** (5.3431)		0.0085 *** (0.1434)	***	0.0008 * (0.0004)	*	0.0004 (0.0002)	
PERFEED_ASPL (-1)>0	-6.5118 (4.6928)		-0.0032 ** (0.1557)	**	-0.0006 (0.0004)		-0.0004 (0.0002)	*
FAFF (-1)	159.1828 *** (25.7027)		-0.0018 *** (0.4512)	***	0.0193 *** (0.0010)	***	0.0057 (0.0005)	***
LOG_AGE (-1)	-252.38 (163.13)		-0.1605 * (2.4451)	*	-0.0405 (0.0163)	**	-0.0341 (0.0139)	**
ABSORBED_SLACK (-1)	-19.8569 *** (5.6889)		-0.0023 *** (0.1780)	***	-0.0002 (0.0006)		0.0004 (0.0004)	
UNABSORBED_SLACK (-1)	-1.0241 *** (0.2970)		0.0000 (0.0054)		-0.0001 *** (0.0000)	***	0.0000 (0.0000)	
POTENTIAL_SLACK (-1)	50.8124 ** (21.0907)		0.0006 (0.4152)		0.0031 ** (0.0015)	**	0.0013 (0.0009)	
Firm-fixed effect	Yes		Yes		Yes		Yes	
Year-fixed effect	Yes		Yes		Yes		Yes	
R^2	0.087107		0.042381		0.282143		0.077764	
Adjusted R^2	0.086469		0.041908		0.281785		0.077305	
F-statistic	136.3539 ***		89.53809 ***	***	788.5408		169.4855 ***	***
Firms included	622		677		676		676	
Observations	10011		14170		14052		14078	

Table 5.9: Robustness check of the speed of internationalization – controlling for R&D intensity and distance from bankruptcy

This table presents the results of robustness check for the effects of performance feedback and slack on the speed of internationalization, controlling for R&D intensity, and probability of bankruptcy, for a sample of publicly listed firms in Japan. The speed of internationalization is measured as FSTSP, FETEP, FAFFP, and FCONP. FSTSP is measured as the percentage change in the ratio of foreign sales to total sales in year *t* when compared to year *t*-1. FETEP is measured as the percentage change in the ratio of foreign employees to total Japanese employees (FETE) in year *t* when compared to year *t*-1. FAFFP is measured as the percentage change in the number of foreign affiliates and subsidiaries in year *t* when compared to year *t*-1. FCONP is measured as the percentage change in the number of foreign locations in year *t* when compared to year *t*-1. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. RDES denotes R&D intensity as measured by the ratio of research and development expense to sales. ALTMANZ denotes the distance from bankruptcy, as measured by Altman's Z-score. PERFEED_ASPL is the performance feedback as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variables	FSTSP		FETEP		FAFFP		FCONP	
Constant	1.0651 ***		0.9635 ***		1.4578 ***		1.2751 ***	
	(0.0775)		(0.2564)		(0.0921)		(0.0771)	
PERFEED_ASPL (-1)<0	0.0003		0.0052 ***		0.0008		0.0006	
	(0.0010)		(0.0015)		(0.0007)		(0.0005)	
PERFEED_ASPL (-1)>0	-0.0025 **		-0.0041 **		-0.0006		0.0002	
	(0.0010)		(0.0020)		(0.0009)		(0.0007)	
FAFF (-1)	-0.0001		-0.0022 **		-0.0070 ***		-0.0037 ***	
	(0.0003)		(0.0010)		(0.0006)		(0.0004)	
LOG_AGE (-1)	-0.0052		0.0227		-0.0728 ***		-0.0457 **	
	(0.0187)		(0.0618)		(0.0221)		(0.0185)	
RDES(-1)	0.1513		-0.1447		0.3690 **		0.2172	
	(0.1804)		(0.4155)		(0.1798)		(0.1385)	
ALTMANZ(-1)	0.0014		0.0008		0.0024 **		0.0016 *	
	(0.0014)		(0.0024)		(0.0010)		(0.0009)	
ABSORBED_SLACK (-1)	0.0003		0.0011		-0.0008		-0.0003	
	(0.0009)		(0.0015)		(0.0006)		(0.0004)	
UNABSORBED_SLACK (-1)	0.0000		-0.0001		-0.0001 **		0.0000	
	(0.0000)		(0.0001)		(0.0000)		(0.0000)	
POTENTIAL_SLACK (-1)	-0.0039 **		0.0036		-0.0028 *		-0.0023 **	
	(0.0016)		(0.0028)		(0.0017)		(0.0010)	
Firm-fixed effect	Yes		Yes		Yes		Yes	
Year-fixed effect	Yes		Yes		Yes		Yes	
<i>R</i> ²	0.1129		0.1022		0.1345		0.1124	
Adjusted <i>R</i> ²	0.0465		0.0210		0.0691		0.0454	
F-statistic	1.7012 ***		1.2592 ***		2.0557 ***		1.6765 ***	
Firms included	624		665		689		689	
Observations	8619		8334		10206		10206	

5.1.3 Summary of main results and robustness check on the study of speed of internationalization

Table 5.10: Summary of the main results of hypothesis testing on the speed of internationalization

Model	Hypotheses		Est. Sign	Speed of internationalization							
				FSTSP	Hypothesis Supported	FETEP	Hypothesis Supported	FAFFP	Hypothesis Supported	FCONP	Hypothesis Supported
Model 1	H1a	Performance Feedback <0	-	0.0007	No	0.0039***	No	0.0018***	No	0.0014***	No
	H1b H1c	Performance Feedback >0	-	-0.0032***	Yes	-0.0026	No	-0.0009	No	-0.0002	No
Model 2	H2a	Absorbed slack	+	0.0004	No	0.0006	No	-0.0003	No	-0.0001	No
	H2b	Unabsorbed slack	+	0.0000	No	-0.0001	No	-0.0001***	No	-0.00003**	No
	H2c	Potential Slack	-	-0.0034**	Yes	0.0024	No	-0.0023**	Yes	-0.0018***	Yes
Model 3	H3	Absorbed slack *Performance Feedback	-	0.0000	No	-0.0001	No	0.0000	No	0.0000	No
		Unabsorbed slack *Performance Feedback	-	0.0000	No	0.0000	No	0.0000	No	0.0000	No
		Potential Slack *Performance Feedback	-	0.0003	No	-0.0001	No	0.0000	No	0.0000	No
Model 4	H4	Industry Global Competition *Performance Feedback	-	-0.0051*	Yes	-0.0115**	Yes	-0.0006	No	-0.0014*	Yes
Model 5	H5	Industry Global Competition *Absorbed Slack	+	0.002106	No	0.001039	No	0.001581	No	0.0017**	Yes
		Industry Global Competition *Unabsorbed Slack	+	-0.00014	No	-0.00025	No	-0.0002**	No	-0.0002**	No
		Industry Global Competition *Potential Slack	-	-0.008752	No	0.017597	No	-0.0187***	Yes	-0.0115***	Yes

Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5.11: Summary of the robustness check of the speed of internationalization

Robustness check	Dependent variables	Performance Feedback <0	Performance Feedback >0	Absorbed slack	Unabsorbed slack	Potential slack
Another measurement for the speed of internationalization	Average foreign sales (AVE_FSALE)	+14.4396***	-6.5118	-19.8569***	-1.0241***	+50.8124**
	Average foreign employees (AVE_FEMP)	+0.0085***	-0.0032**	-0.0023***	0.0000	+0.0006
	Average foreign affiliates (AVE_FAFF)	+0.0008*	-0.0006	-0.0002	-0.0001***	+0.0031**
	Average foreign locations (AVE_FCON)	+0.0004	-0.0004*	+0.0004	0.0000	+0.0013
Control for R&D intensity and distance from bankruptcy	Speed of change in the degree of internationalization (FSTSP)	+0.0003	-0.0025**	+0.0003	0.0000	-0.0039**
	Speed of change in the commitment of foreign resources (FETEP)	+0.0052***	-0.0041**	+0.0011	-0.0001	+0.0036
	Speed of change in the commitment of foreign resources (FAFFP)	-0.0008	-0.0006	-0.0008	0.0001**	-0.0028*
	Speed of change in the breadth of foreign markets (FCONP)	+0.0006	+0.0002	-0.0003	0.0000	-0.0023**

Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

5.2 Study of a behavioral perspective on the foreign location choice

5.2.1 Main results and discussions

The behavioral theory of the firm is applied to examine the effects of performance feedback and slack on psychic distance, and thus, illustrate the factors that underlie the decision-making of Japanese multinational firms to select a specific foreign location for investment. To reduce the potential effects of extreme values, I winsorize all firm-level variables at the 0.5 and 99.5 percentiles. Table 5.12 presents a summary of descriptive statistics of key firm-level variables, for a sample of 123,074 firm-foreign subsidiary-year observations during the period 1991–2017. The location choice of the firm in this dissertation is captured by nine variables of psychic distance: economic (ECON), financial (FINAN), political (POLITC), administrative (ADMIN), cultural (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO). As institutional distance data between Japan and Taiwan is unavailable, all subsidiaries in Taiwan have been excluded from the analysis. The value of psychic distance for each dimension, except the cultural dimension, was retrieved from the database of Berry, Guillén and Zhou (2010). The cultural distance score is calculated as a composite index using the data of the GLOBE project (House, Hanges, Javidan, Dorfman, & Gupta, 2004). The mean value of distance in terms of economic (ECON), financial (FINAN), administrative (ADMIN), political (POLC), cultural (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO) are 6.56, 4.84, 79.07, 9406.58, 2.35, 9.07, 16.03, 2.59, and 6180.83, respectively. The range between the maximum and minimum and standard deviation is high in political distance because of the significant differences in political stabilities between Japan and developing countries, and countries with different democratic systems. Such differences also fluctuate over time. The geographic distance is a measurement of the distance between two countries along the global surface; therefore, the distance to countries in the same continent and on different continents could have a wide range.

For firm-foreign subsidiary-year observations, the mean values of international experience (FAFF) and firm's age (LOG_AGE) equal 35.63 and 4.14, respectively. Performance feedback adjusted

by aspiration level (PERFEED_ASPL), a key explanatory variable, has a mean value of -0.87, which indicates that, on average, the observations in this dissertation perform below aspiration levels. The minimum and maximum values of performance feedback are -19.77 (i.e., performance below aspiration level) and 14.11 (i.e., performance above aspiration level). The ratio of Selling, General, and Administrative Expenses (SG&A) to total sales, which is a proxy for absorbed slack (ABSORBED_SLACK), has a mean value of 0.21. The ratio of quick assets to total liabilities, a proxy for unabsorbed slack (UNABSORBED_SLACK), has a mean value of 1.30. The ratio of debt to shareholder's equity, which is a proxy for potential slack (POTENTIAL_SLACK), has a mean value of 1.83.

Table 5.12: Descriptive statistics of key variables – study on foreign location choice

This table displays summary statistics for key variables in the full sample period. ECON, FINAN, ADMIN, POLITC, CUL_G, DEMO, KNOW, GCON, and GEO are the cross-national psychic distances in nine dimensions, namely, economic, financial, administrative, political, cultural, demographic, knowledge, global connectedness, and geographic dimensions, respectively. FAFF denotes the affiliates and subsidiaries. LOG_AGE denotes the natural logarithm of years since the firm's foundation year. PERFEED_ASPL denotes the performance feedback, as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK denotes the absorbed slack, as measured by the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK denotes the unabsorbed slack, as measured by the ratio of quick assets to total liabilities. POTENTIAL_SLACK denotes the potential slack, as measured by the ratio of debt to shareholder's equity. A one-year time lag of the independent variables is indicated by (-1).

	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
ECON	6.56	3.96	60.26	0.02	10.12	123074
FINAN	4.84	2.35	46.90	0.05	5.93	123074
ADMIN	79.07	82.77	172.26	10.17	33.51	123074
POLITC	9406.58	4213.15	76670.64	0.42	14154.09	123074
CUL_G	2.35	2.38	5.63	0.28	0.84	123074
DEMO	9.07	7.14	35.74	0.05	6.80	123074
KNOW	16.03	15.25	65.85	0.12	12.70	123074
GCON	2.59	1.63	16.70	0.03	2.76	123074
GEO	6180.83	5329.10	18372.04	260.25	4038.84	123074
PERFEED_ASPL(-1)	-0.87	-0.66	14.11	-19.77	3.22	123074
FAFF(-1)	35.63	24.00	267.00	6.00	37.17	123074
LOG_AGE (-1)	4.14	4.17	4.89	0.00	0.39	123074
ABSORBED_SLACK (-1)	0.21	0.20	0.74	0.03	0.10	123074
UNABSORBED_SLACK (-1)	1.30	0.99	15.41	0.18	1.16	123074
POTENTIAL_SLACK (-1)	1.83	1.30	25.82	0.07	2.17	123074

Table 5.13 presents the correlation coefficients between key firm-level variables for a sample of 123,074 firm-foreign subsidiary-year observations during the period 1991-2017. As shown in the table, correlation coefficients between all variables are less than 0.60, suggesting that multicollinearity

is unlikely to be a concern. Correlation between the dimensions of psychic distance, which are dependent variables in this dissertation, is relatively high for the pair of geographic (GEO) and cultural (CUL) dimensions ($r = 0.60$) but below 0.45 for the remaining pairs of psychic distance dimensions, suggesting that each dimension of psychic distance contains a specific feature of the foreign location. The moderately positive correlation between geographic and cultural distance dimensions may imply that the two countries that are geographically distant from each other might have large cultural distances too. At the 1% statistical significance, all three types of slack have low correlation, that is, the coefficient of 0.19 for absorbed slack (ABSORBED_SLACK) and unabsorbed slack (UNABSORBED_SLACK), coefficient of -0.14 for absorbed slack (ABSORBED_SLACK) and potential slack (POTENTIAL_SLACK), and coefficient of -0.33 for unabsorbed slack (UNABSORBED_SLACK) and potential slack (POTENTIAL_SLACK). This result confirms that each type of slack has a distinct purpose and their effect should be tested separately. Low correlation ($r = 0.13$, significant at the 1% level) between international experience (FAFF) and firm age (LOG_AGE) indicates that international experience is less relevant to the age of the firm.

Table 5.13: Correlation coefficients – study on foreign location choice

This table reports correlation coefficients of key variables for the sample of 123,074 firm-foreign subsidiary-year observations during the period 1991–2017. All variables are defined as shown in Table 5.12.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 ECON														
2 FINAN	0.43													
3 ADMIN	-0.21	-0.01												
4 POLITC	-0.12	-0.17	-0.01											
5 CUL_G	0.09	0.24	0.24	0.39										
6 DEMO	0.44	-0.05	0.28	-0.11	0.04									
7 KNOW	0.29	0.19	0.01	0.32	0.40	0.38								
8 GCON	0.08	0.19	0.23	-0.12	0.02	0.37	0.05							
9 GEO	-0.23	0.20	0.24	0.15	0.60	-0.39	-0.06	-0.15						
10 PERFEED_ASPL (-1)	-0.01	0.02	-0.01	0.00	-0.01	-0.02	-0.03	0.02	0.01					
11 FAFF (-1)	-0.02	0.02	-0.03	0.03	0.02	-0.03	0.03	-0.02	0.04	-0.06				
12 LOG_AGE (-1)	-0.02	-0.09	0.00	0.03	-0.04	0.07	0.00	-0.01	-0.04	0.02	0.13			
13 ABSORBED_SLACK (-1)	-0.01	0.04	0.07	0.11	0.15	-0.05	0.08	-0.04	0.12	-0.06	0.07	-0.06		
14 UNABSORBED_SLACK (-1)	0.02	-0.01	0.08	0.06	0.07	0.05	0.04	0.00	0.01	0.04	-0.18	-0.18	0.19	
15 POTENTIAL_SLACK_LAG (-1)	0.01	0.07	-0.07	-0.07	-0.04	-0.08	-0.05	0.02	0.01	-0.20	0.05	0.07	-0.14	-0.33

* Correlation coefficients greater than 0.02 are significant at the 1% level.

** (-1) indicates that the variable is at a one-year lag.

A series of GLS regressions has been estimated to empirically test the effects of performance feedback and slack on the location choice of firms. Table 5.14 presents the regression results of model (6), which empirically tested the effect of performance feedback on nine dimensions of psychic distances: economic (ECON), financial (FINAN), administrative (ADMIN), political (POLITC), cultural (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO). After controlling for a firm's international experience (i.e., one-year lagged number of foreign subsidiaries) and age, the regression results have provided partial support to Hypothesis (6). Based on the argument of behavioral theory of the firm, which suggests that negative performance feedback increases risk tolerance, firms are more likely to choose foreign locations at greater psychic distance when their performance relative to aspiration decreases. Therefore, the expected sign for the coefficient of performance feedback on the psychic distance is negative. More specifically, a negative relationship between performance feedback and each dimension of psychic distance is expected. Similar to the analysis in model (1), the disaggregation of the effects of performance feedback into performance below aspiration level ($PERFEED_ASPL < 0$ or negative performance feedback) and performance above aspiration level ($PERFEED_ASPL > 0$ or positive performance feedback) provides a clear relationship between performance feedback and location choice.

Interestingly, the regression results of model (6) suggest a non-linear relationship between performance feedback and psychic distance. A significant non-linear relationship suggests that Japanese multinational firms strategically react to performance feedback. As shown in Table 5.14, it is clear that the effects of above-aspiration performance and below-aspiration performance on psychic distance are in inverse directions, although the effects are different in the prediction of each distance dimension. The U-shaped relationship is found between performance feedback and economic (ECON), political (POLITC), administrative (ADMIN), cultural (CUL_G), demographic (DEMO), and knowledge (KNOW) distances. This U-shaped relationship could be interpreted as implying that the magnitude of attainment discrepancy between performance and aspiration level is positively associated with the psychic distance. The more diverse a firm's performance is from the aspiration level, whether in a good or bad way, the more likely is the firm to invest in the location with great psychic distance in terms of

economic, political, administrative, cultural, demographic, and knowledge. Conversely, the inverted U-shaped relationship is observed between performance feedback and financial (FINAN) and global connectedness (GCON) distances. This inverted U-shaped relationship could indicate that the magnitude of attainment discrepancy between performance and aspiration level is negatively associated with the psychic distance. The more diverse a firm's performance is from the aspiration level, whether in a good or bad way, the less likely is the firm to invest in a location with great differences in financial system and global connectedness.

The relationship between performance feedback and geographic distance is found to be statistically insignificant, suggesting that, in response to performance feedback, firms do not choose locations for foreign investment based on geographic distance. Consistent with the notion of behavioral theory that firms that perform lower than aspiration levels will have higher levels of risk tolerance, and thus, are more likely to invest in psychically distant locations in terms of economic, political, administrative, cultural, demographic, and knowledge. However, the empirical findings of the U-shaped relationship suggest that firms performing above the aspiration level also select locations that are psychically distant in terms of economic, political, administrative, cultural, demographics, and knowledge. Because the relationship is a U-shape, firms that perform around the aspiration level invest in locations that are similar in economic, political, administrative, cultural, demographic, and knowledge dimensions.

This research examines publicly listed MNEs from Japan, which is a developed country. Generally, countries with greater psychic distance to Japan are developing countries, with different levels of economic development and political stability. These countries are markets with immense long-term growth potential (Calvo, Leiderman, & Reinhart, 1996). Facing declining performance, firms might take higher risks and seek business opportunities in new potential markets. Psychic distance in terms of administrative, cultural, and demographic dimensions may imply markets with different types of consumers, which could become potential new markets and sources of revenue for firms. A prior empirical study (e.g., Shenkar, 2001) has found a positive relationship between cultural distance and a

foreign affiliate's performance. Psychic distance in terms of knowledge can become a source of innovation and contribute to building a competitive advantage for the company (Zhang, Cantwell, & Jiang, 2014). The positive coefficients of above-aspiration performance and psychic distance could be explained by the hypercompetition theory, which suggests that an industry leader must continuously perform competitive strategic actions to sustain its superior performance (D'Aveni, 1994; D'Aveni & Gunther, 1995).

Model 6

Table 5.14: Regressions of performance feedback on foreign location choice

This table presents the results of GLS regressions of performance feedback on the location choice for a sample of publicly listed firms in Japan. The cross-national psychic distance is measured in the following nine dimensions: economic (ECON), financial (FINAN), political (POLITC), administrative (ADMIN), cultural distance (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO) dimensions. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback, as measured by the firm's return on asset (ROA) minus aspiration level. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	ECON		FINAN		POLITC		ADMIN		CUL_G		DEMO		KNOW		GCON		GEO	
Constant	9.3734	***	16.0212	***	3109.0450	***	78.6294	***	2.6155	***	3.5085	***	11.2509	***	2.8474	***	7114.7860	***
	(0.4680)		(0.4888)		(653.9631)		(1.1214)		(0.0308)		(0.3035)		(0.5378)		(0.1162)		(163.7625)	
PERFEED_ASPL (-1) <0	-0.0723	***	0.0732	***	-148.0708	***	-0.4340	***	-0.0104	***	-0.1492	***	-0.2772	***	0.0333	***	-6.9365	
	(0.0186)		(0.0194)		(25.6821)		(0.0448)		(0.0012)		(0.0120)		(0.0212)		(0.0045)		(6.4274)	
PERFEED_ASPL (-1) >0	0.0804	***	-0.1297	***	299.7063	***	0.6504	***	0.0168	***	0.2077	***	0.3886	***	-0.0258	***	1.6000	
	(0.0276)		(0.0287)		(37.3258)		(0.0681)		(0.0019)		(0.0177)		(0.0311)		(0.0066)		(9.6321)	
FAFF(-1)	-0.0113	***	-0.0050	***	6.8552	***	-0.0167		0.0010	***	-0.0035	***	0.0182	***	-0.0014	**	4.1133	***
	(0.0012)		(0.0013)		(2.0506)		(0.0029)		(0.0001)		(0.0008)		(0.0015)		(0.0003)		(0.4742)	
LOG_AGE(-1)	-0.3539	***	-1.8912	***	1209.3960	***	-0.0852	***	-0.0780	***	1.1325	***	0.8223	***	-0.0638	***	-318.9601	***
	(0.1132)		(0.1183)		(157.3629)		(0.2705)		(0.0074)		(0.0733)		(0.1298)		(0.0279)		(39.3649)	
R^2	0.2320		0.1676		0.5120		0.1403		0.1755		0.3654		0.3948		0.2643		0.4269	
Adjusted R^2	0.2320		0.1676		0.5119		0.1403		0.1755		0.3654		0.3948		0.2642		0.4269	
F-statistic	10200.90	***	6058.41	***	34116.34	***	6242.21	***	8151.05	***	19478.59	***	22012.09	***	10656.01	***	29816.20	***
Observations	168871		150426		162616		191297		191477		169145		168695		148335		200119	

Table 5.15 presents the regression results of model (7), which empirically tests the effect of slack on the following nine dimensions of psychic distance: economic (ECON), financial (FINAN), administrative (ADMIN), political (POLITC), cultural (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO). After controlling for a firm's international experience and age, the regression results provide partial support for Hypothesis (7). However, the results are different for each dimension of psychic distance. Based on the argument of behavioral theory of the firm, which suggests that abundant slack increases risk tolerance, firms are more likely to choose foreign locations at greater psychic distances when they have more slack (i.e., Hypothesis (7)). Therefore, the expected sign for the coefficient of absorbed slack, as measured by the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales, and unabsorbed slack, as measured by the ratio of quick assets to total liabilities, on the psychic distances should be positive. The coefficient of potential slack, as measured by the ratio of debt to equity, should be negative.

The regression results of model (7) are consistent with the hypothetical prediction for most psychic distance dimensions. A positive relationship is found (1) between absorbed slack and financial, political, administrative, cultural, knowledge, and geographic dimensions of psychic distance, (2) between unabsorbed slack and economic, financial, political, administrative, cultural, and demographic dimensions of psychic distance, and (3) between potential slack and economic, political, administrative, cultural, demographic, and knowledge dimensions of psychic distance (i.e., positive relationship between potential slack and psychic distance is indicated by negative coefficient). The theory of psychic distance asserts that the perceived risk and uncertainty in psychically distant locations are high (e.g., O'grady, & Lane, 1996). The regression results of model (7) suggest that excess organizational slack would buffer firms from risk and uncertain environments (Cyert & March, 1963; Singh, 1986; Rafailov, 2017), thus inducing firms to invest in psychically distant countries.

In contrary to the hypothetical prediction, a significant and negative relationship is found (1) between absorbed slack and demographic dimension of psychic distance, and (2) between potential slack and financial dimension of psychic distance. More interestingly, all types of slack are found to

have significant and negative relationships with the global connectedness dimension of psychic distance. As global connectedness reflects the degree to which a country is exposed to the global market (see Table 4.3 for details of components), it is interesting to find empirical evidence that Japanese multinational firms with more slack are likely to invest in locations with the same level of global connectedness. The relationship between absorbed slack and economic distance, unabsorbed slack and geographic distance, and potential slack and geographic distance, are not statistically significant.

Although the regression results generally support Hypothesis (7), they are not consistent in the prediction of all psychic distance dimensions. This empirical evidence confirms that psychic distance is multidimensional and it should not be explained by only one measure (Dow & Karunaratna, 2006). Each dimension of psychic distance has distinct constructs, which influences management decisions differently (Shenkar, 2001).

Model 7

Table 5.15: Regressions of slack on foreign location choice

This table presents the results of GLS regressions of slack on the location choice for a sample of publicly listed firms in Japan. The cross-national psychic distance is measured in the following nine dimensions: economic (ECON), financial (FINAN), political (POLITC), administrative (ADMIN), cultural distance (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO) dimensions. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	ECON		FINAN		POLITC		ADMIN		CUL_G		DEMO		KNOW		GCON		GEO	
Constant	8.6560	***	13.2429	***	945.7865		68.7613	***	2.2407	***	4.2962	***	9.9717	***	3.0118	***	6088.4140	***
	(0.4967)		(0.5182)		(691.3122)		(1.1799)		(0.0320)		(0.3217)		(0.5722)		(0.1229)		(172.7671)	
FAFF(-1)	-0.0096	***	-0.0053	***	6.1085	***	-0.0129	***	0.0009	***	-0.0014	*	0.0167	***	-0.0014	***	3.5649	***
	(0.0013)		(0.0013)		(2.0517)		(0.0029)		(0.0001)		(0.0009)		(0.0016)		(0.0003)		(0.4763)	
LOG_AGE(-1)	-0.2278	**	-1.6654	***	1475.9200	***	1.1690	***	-0.0423	***	1.1577	***	0.9111	***	-0.0790	***	-230.5230	***
	(0.1148)		(0.1198)		(159.3714)		(0.2719)		(0.0074)		(0.0743)		(0.1321)		(0.0283)		(39.7670)	
ABSORBED_SLACK (-1)	-0.0051		0.0476	***	73.8643	***	0.2097	***	0.0100	***	-0.0277	***	0.0844	***	-0.0084	***	30.8779	***
	(0.0043)		(0.0045)		(5.9797)		(0.0102)		(0.0003)		(0.0028)		(0.0049)		(0.0011)		(1.4876)	
UNABSORBED_SLACK (-1)	0.0033	***	0.0024	***	1.8378	***	0.0172	***	0.0004	***	0.0023	***	0.0002		-0.0002	**	0.1659	
	(0.0004)		(0.0004)		(0.5216)		(0.0009)		(0.0000)		(0.0003)		(0.0004)		(0.0001)		(0.1327)	
POTENTIAL_SLACK (-1)	-0.0002	**	0.0017	***	-1.9085	***	-0.0070	***	-0.0001	***	-0.0017	***	-0.0014	***	0.0002	***	-0.0024	
	(0.0002)		(0.0002)		(0.2745)		(0.0005)		(0.0000)		(0.0001)		(0.0002)		(0.0001)		(0.0711)	
R^2	0.2320		0.1682		0.5113		0.1472		0.1838		0.1101		0.3669		0.3965		0.2649	
Adjusted R^2	0.2319		0.1682		0.5113		0.1472		0.1838		0.1101		0.3668		0.3964		0.2648	
F-statistic	8451.11	***	5036.21	***	28181.85	***	5433.05	***	7125.15	***	16154.82	***	18289.42	***	8907.87	***	24966.93	***
Observations	168004		149705		161796		190313		190486		168278		167828		147695		199085	

Table 5.16 presents the analysis results of model (8), which empirically tests the moderating effect of slack on the relationship between performance feedback and nine dimensions of psychic distances⁴. Based on the argument that slack would act as buffers for firms to execute risky strategies, those with abundant slack are expected to expand business to psychically distant markets. Hypothesis (8) predicts that slack has a moderating effect on the relationship between performance feedback and psychic distance. More specifically, firms that perform lower than the aspiration level but possess slack would exhibit internationalization in locations with greater psychic distance. The coefficients of the interaction terms (1) between absorbed slack and financial dimension of psychic distance, (2) between unabsorbed slack and financial, political, administrative, cultural, and geographic dimensions of psychic distance, and (3) between potential slack and financial, political, administrative, cultural, and demographic dimensions of psychic distance are statistically significant at levels of 10% or better. These regression results provide adequate support to Hypothesis (8), suggesting that organizational slack has a moderating effect on some dimensions of psychic distances.

The coefficients of negative performance feedback (PERFEED_ASPL <0) are negative and statistically significant for economic, political, administrative, cultural, demographic, knowledge, and geographic dimensions of psychic distance. This suggests that in the presence of specific organizational resources (i.e., absorbed, unabsorbed, or potential slack), firms that perform lower than aspiration levels

⁴ To confirm the moderating effect of slack in model (8), I re-test the moderating effect of slack by adding only the interaction term of slack and performance feedback, without the slack variable as a main effect (see the full results in Table A2 of Appendix A). The formula is $PD_{p,i,t,n} = \beta_0 + \beta_1 \text{PERFEED_ASPL}_{i,t-1} < 0 + \beta_2 \text{PERFEED_ASPL}_{i,t-1} > 0 + \beta_3 \text{FAFF}_{i,t-1} + \beta_4 \text{AGE}_{i,t-1} + \beta_5 \text{ABSORBED_SLACK}_{i,t-1} * \text{PERFEED_ASPL}_{i,t-1} + \beta_6 \text{UNABSORBED_SLACK}_{i,t-1} * \text{PERFEED_ASPL}_{i,t-1} + \beta_7 \text{POTENTIAL_SLACK}_{i,t-1} * \text{PERFEED_ASPL}_{i,t-1} + \eta_i + v_t + \epsilon_{i,t}$. Although, the result of an additional test is not significantly different from the result of model (8), it can estimate fewer dimensions of psychic distance. In model (8), potential slack shows statistically significant moderating effect on the relationship between performance feedback and five psychic distance dimensions (i.e., financial, political, administrative, cultural, and demographic). In this comparative model, potential slack shows a statistically significant moderating effect on the relationship between performance feedback and only four psychic distance dimensions (i.e. administrative, demographic, knowledge, and global connectedness). The coefficients of performance feedback, which are of primary interest, are mostly in the same direction as the main results. However, the coefficients of performance feedback of model (8) show higher sensitivity in the prediction of most psychic distance dimensions. The R^2 value of model (8), with both main and moderating effect of slack, is higher (R^2 of model (8) in the main analysis for ECON, FINAN, POLITC, ADMIN, CUL_G, DEMO, KNOW, GCON, and GEO are 0.2320, 0.1684, 0.5114, 0.1474, 0.1840, 0.3669, 0.3955, 0.2658, and 0.4294, respectively. The R^2 of this model for ECON, FINAN, POLITC, ADMIN, CUL_G, DEMO, KNOW, GCON, and GEO are 0.2316, 0.1670, 0.5105, 0.1408, 0.1761, 0.3650, 0.3951, 0.2656, and 0.4281, respectively). In conclusion, the results of additional test are consistent with the main results in model (8), but including both direct effect and moderating effect of slack in the model can better explain firms' behavior in selecting foreign investment locations.

are likely to select markets that are at greater psychic distance. This result can be explained by the behavioral theory of the firm, as firms with below-aspiration performance and excess slack would increase their level of risk tolerance, and thus, be more likely to execute risky actions (Cyert & March, 1963). The significant and positive relationship between positive performance feedback ($PERFEED_ASPL > 0$) and political, administrative, cultural, demographic, and knowledge dimensions of psychic distance could be explained by the hypercompetition theory, which suggests that an industry leader must continuously undertake competitive strategic action to sustain its superior performance (D'Aveni, 1994; D'Aveni & Gunther, 1995). The empirical results of model (8) confirm that the hypercompetition argument is especially true for firms with superior performance and excess resources.

The control variables in models (6)-(8) have significant effect on psychic distance. The number of foreign subsidiaries (FAFF), which indicates the degree of international experience of a firm, has a significant and positive effect on the political, cultural, knowledge, and geographic dimensions of psychic distance. This empirical evidence is consistent with studies in the past (e.g., Johanson & Wiedersheim-Paul, 1975; Brennan & Garvey, 2009; Eriksson, Johanson, Majkgård, & Sharma, 2000), which showed that firms would expand business to psychically distant locations when they acquired adequate experiential knowledge. The findings in this dissertation provide empirical evidence that experiential knowledge is necessary to expand business to locations that are distant in terms of political, cultural, knowledge, and geographic dimensions. Meanwhile, the significant and negative coefficients of international experience on psychic distance suggest that firms, even with lower levels of experiential knowledge, may expand business to locations at greater distance in terms of economic, financial, administrative, demographic, and global connectedness. Consistent with the inertia theory, which argues that the structural stability of an organization increases with age (Kelly & Amburgey, 1991), a firm's age is found to have a significant and negative relationship with financial, cultural, global connectedness, and geographic dimensions of psychic distance. Contrary to the inertia theory, firm age is found to have a significant and positive relationship with the political, administrative, demographic, and knowledge dimensions of psychic distance. Table 5.24 summarizes the regression results for the study of a behavioral perspective on the location choice of a firm.

Model 8

Table 5.16: Regressions of the moderating effect of slack on the relationship between performance feedback and foreign location choice

This table presents the results of GLS regressions of the moderating effects of slack on the relationship between performance feedback and the location choice for a sample of publicly listed firms in Japan. The cross-national psychic distance is measured in nine dimensions: economic (ECON), financial (FINAN), political (POLITC), administrative (ADMIN), cultural distance (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO) dimensions. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback, as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	ECON		FINAN		POLITC		ADMIN		CUL_G		DEMO		KNOW		GCON		GEO	
Constant	8.3621 ***		13.3910 ***		36.4101		67.0868 ***		2.2034 ***		3.6594 ***		8.8128 ***		3.1162 ***		6020.5020 ***	
	(0.5013)		(0.5222)		(696.8463)		(1.1871)		(0.0323)		(0.3221)		(0.5735)		(0.1241)		(174.4658)	
PERFEED_ASPL (-1) <0	-0.1314 ***		-0.0216		-186.8703 ***		-0.6091 ***		-0.0121 ***		-0.1678 ***		-0.3304 ***		0.0389 ***		-30.9028 **	
	(0.0373)		(0.0387)		(49.8003)		(0.0900)		(0.0024)		(0.0236)		(0.0417)		(0.0090)		(12.6422)	
PERFEED_ASPL (-1) >0	0.0349		-0.2549 ***		300.4421 ***		0.5956 ***		0.0139 ***		0.2479 ***		0.3923 ***		-0.0256 ***		-23.1564 *	
	(0.0381)		(0.0395)		(50.6875)		(0.0942)		(0.0025)		(0.0241)		(0.0426)		(0.0091)		(13.2402)	
FAFF(-1)	-0.0097 ***		-0.0051 ***		6.0606 ***		-0.0133 ***		0.0009 ***		-0.0018 **		0.0161 ***		-0.0013 ***		3.5428 ***	
	(0.0013)		(0.0013)		(2.0440)		(0.0029)		(0.0001)		(0.0008)		(0.0015)		(0.0003)		(0.4769)	
LOG_AGE(-1)	-0.1885		-1.7272 ***		1637.3060 ***		1.4649 ***		-0.0363 ***		1.2813 ***		1.0950 ***		-0.0967 ***		-224.7345 ***	
	(0.1152)		(0.1200)		(159.6392)		(0.2718)		(0.0074)		(0.0740)		(0.1316)		(0.0284)		(39.9047)	
ABSORBED_SLACK (-1)	-0.0050		0.0529 ***		72.4425 ***		0.1996 ***		0.0099 ***		-0.0317 ***		0.0810 ***		-0.0078 ***		31.2779 ***	
	(0.0045)		(0.0046)		(6.1986)		(0.0105)		(0.0003)		(0.0029)		(0.0051)		(0.0011)		(1.5461)	
UNABSORBED_SLACK (-1)	0.0033 ***		0.0030 ***		1.9866 ***		0.0172 ***		0.0004 ***		0.0020 ***		0.0001		-0.0001		0.3445 **	
	(0.0004)		(0.0004)		(0.5522)		(0.0010)		(0.0000)		(0.0003)		(0.0005)		(0.0001)		(0.1403)	
POTENTIAL_SLACK (-1)	-0.0005 *		0.0025 ***		-2.9320 ***		-0.0100 ***		-0.0001 ***		-0.0026 ***		-0.0023 ***		0.0003 ***		0.0132	
	(0.0002)		(0.0003)		(0.3231)		(0.0006)		(0.0000)		(0.0002)		(0.0003)		(0.0001)		(0.0849)	
ABSORBED_SLACK (-1)	0.0012		0.0032 ***		0.0657		-0.0006		0.0000		-0.0006		0.0003		-0.0001		0.3133	
*PERFEED_ASPL (-1)	(0.0012)		(0.0012)		(1.5809)		(0.0028)		(0.0001)		(0.0007)		(0.0013)		(0.0003)		(0.3999)	
UNABSORBED_SLACK (-1)	0.0001		0.0002 *		0.3297 ***		0.0009 ***		0.0000 ***		0.0000		0.0002		0.0000		0.1241 ***	
*PERFEED_ASPL (-1)	(0.0001)		(0.0001)		(0.1170)		(0.0002)		(0.0000)		(0.0001)		(0.0001)		(0.0000)		(0.0303)	
POTENTIAL_SLACK (-1)	0.0000		0.0002 ***		-0.1580 ***		-0.0004 ***		0.0000 ***		-0.0001 ***		0.0000		0.0000		0.0102	
*PERFEED_ASPL (-1)	(0.0000)		(0.0000)		(0.0473)		(0.0001)		(0.0000)		(0.0000)		(0.0000)		(0.0000)		(0.0121)	
R ²	0.2320		0.1684		0.5114		0.1474		0.1840		0.3669		0.3955		0.2658		0.4294	
Adjusted R ²	0.2319		0.1683		0.5114		0.1474		0.1839		0.3669		0.3965		0.2660		0.4294	
F-statistic	4612.82 ***		2755.21 ***		15395.16 ***		2992.02 ***		3904.46 ***		8866.48 ***		10022.75 ***		4867.66 ***		13621.29 ***	
Observations	168004		149705		161796		190313		190486		168278		167828		147695		211464	

5.2.2 Robustness check on the study of foreign location choice

To check the robustness of the main results on location choice, I conduct three additional regression analyses. First, to control for the effect of research and development (R&D) and the effect of distance from bankruptcy, I included R&D intensity and the score for likelihood of bankruptcy in the robustness check. Second, to check the validity of multidimensional psychic distances, I constructed an aggregate psychic distance index based on nine psychic distance dimensions (i.e., economic, financial, political, administrative, cultural, demographic, knowledge, global connectedness, and geographic). The aggregate psychic distance index is calculated as the square root of the sum of the square of the 9 psychic distance dimensions (Morosini, Shane, & Singh, 1998), which is similar to the approach used to calculate the composite index of cultural distance (see page 68). The single aggregate psychic distance index is used as a dependent variable to test hypotheses (6), (7), and (8) for robustness. Third, to check the critical dimensions of psychic distance, I performed a factor analysis to identify the principal components among nine psychic distance dimensions. The principal component is used as a dependent variable to test Hypotheses (6), (7), and (8) for robustness.

Table 5.17 presents the results of the first robustness check. R&D intensity (RDES) and distance from bankruptcy (ALTMANZ) are included as additional control variables because R&D ratio and distance from bankruptcy can potentially influence the decision for overseas investment (Iyer & Miller, 2008; March & Shapira, 1992; Chen & Miller, 2007). Because data on R&D expenses and retained earnings, which are necessary for calculating distance from bankruptcy, are available only after 1999, the pooled data set for GLS regression analyses is limited to 1999–2017. R&D intensity is measured by the ratio of R&D expenditures to total sales. Distance from bankruptcy is the Altman's (1983) Z-score, which is calculated by $(1.2 \times \text{working capital divided by total assets}) + (1.4 \times \text{retained earnings divided by total assets}) + (3.3 \times \text{income before interest expense and taxes divided by total assets}) + (0.6 \times \text{market value of equity divided by total liability}) + (1.0 \times \text{sales divided by total assets})$.

The robustness results in Table 5.17 are qualitatively similar to the main results. Even after controlling for R&D intensity and distance from bankruptcy, the U-shaped relationship between performance feedback and economic, financial, political, administrative, cultural, demographic, and knowledge dimensions of psychic distance is still evident. A significant and negative relation still exists between negative performance feedback ($PERFEED_ASPL < 0$) and economic, administrative, cultural, demographic, knowledge, financial, and political dimensions of psychic distance, supporting the argument that firms performing lower than aspiration levels tend to select investment locations at greater psychic distance. Global connectedness and geographic distances obtain inverted U-shaped coefficients, but are only significant in the positive relationship between negative performance feedback and global connectedness distance.

The findings on the relationship between slack and psychic distance are qualitatively the same as the main results, although at a lower level of statistical significance. Controlling for R&D intensity and distance from bankruptcy, a significant and positive relationship is still found between absorbed slack and economic, financial, political, administrative, cultural, demographic, knowledge, and geographic dimensions of psychic distance. A significant and negative relationship is found between unabsorbed slack and knowledge and geographic dimensions of psychic distance, while a significant and positive relationship is found between unabsorbed slack and economic, finance, administrative, and cultural dimensions of psychic distance. A significant and negative relationship is also found between potential slack and political, administrative, and demographic dimensions of psychic distance, consistent with the main results. Overall, the empirical findings from the robustness check provide partial support to Hypothesis (7).

The regression results of R&D intensity, similar to the results of other explanatory variables, do not present across the dimensions of psychic distance, but provide further empirical evidence to support previous studies (e.g., Iyer & Miller, 2008). R&D intensity seems to have a significant and positive relationship with political, administrative, cultural, and geographic dimensions of psychic distance. This result suggests that firms with specific competitive advantages from R&D investment

would expand their businesses to location at greater psychic distance (Filatotchev & Piesse, 2009). Meanwhile, R&D intensity seems to have a significant and negative relationship with economic, financial, demographic, and global connectedness dimensions of psychic distance. Overall, R&D intensity seems to influence managerial decision on internationalization strategy (e.g., Zhao, Luo, & Suh, 2004). These empirical results also confirm that psychic distance is multidimensional and one measure of psychic distance cannot explain the whole context.

The regression results in Table 5.17 illustrate the significant and positive coefficients of Altman's Z-score, which is a proxy for the distance from bankruptcy, on financial, political, administrative, cultural, demographic, knowledge, global connectedness, and geographic dimensions of psychic distance. The positive coefficients for Altman's Z-score suggest that firms would select an investment location at greater psychic distance if they were not likely to go bankrupt (i.e., high Altman's Z-score). This positive relationship between distance from bankruptcy and psychic distance is consistent with prior studies, which showed that firms threatened by bankruptcy are more likely avoid searching for risky strategic solutions. This also conforms to the threat-rigidity theory, suggesting that firms would shift focus to survival when close to bankruptcy (Miller & Chen, 2004; Iyer & Miller, 2008).

Table 5.17: Robustness check of foreign location choice – controlling for R&D intensity and distance from bankruptcy

This table presents the results of robustness check for the effects of performance feedback and slack on the location choice, controlling for R&D intensity, and probability of bankruptcy, for a sample of publicly listed firms in Japan. The cross-national psychic distance is measured in nine dimensions, denoted as follows: cross-national psychic distance in economic (ECON), financial (FINAN), political (POLITC), administrative (ADMIN), cultural distance (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO) dimensions. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. RDES denotes R&D intensity, as measured by the ratio of research and development expense to sales. ALTMANZ denotes the distance from bankruptcy, as measured by Altman's Z-score. PERFEED_ASPL is the performance feedback, as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	ECON		FINAN		POLITC		ADMIN		CUL_G		DEMO		KNOW		GCON		GEO	
Constant	8.5628	***	7.2730	***	4774.4950	***	68.1574	***	2.0559	***	7.0255	***	10.9543	***	1.9689	***	4931.7680	***
	(0.5874)		(0.5941)		(914.4031)		(1.3831)		(0.0373)		(0.3812)		(0.7147)		(0.1249)		(208.3007)	
PERFEED_ASPL (-1) <0	-0.0933	***	-0.0412	*	-60.5785	*	-0.3963	***	-0.0076	***	-0.1646	***	-0.3091	***	0.0162	***	0.5244	
	(0.0212)		(0.0215)		(32.9494)		(0.0509)		(0.0014)		(0.0138)		(0.0257)		(0.0045)		(7.5011)	
PERFEED_ASPL (-1) >0	0.0450		0.0294		167.6756	***	0.2691	***	0.0095	***	0.0720	***	0.2465	***	-0.0101		1.3068	
	(0.0294)		(0.0298)		(44.9316)		(0.0718)		(0.0019)		(0.0191)		(0.0354)		(0.0063)		(10.4479)	
FAFF(-1)	-0.0072	***	-0.0044	***	5.8540	**	-0.0240	***	0.0008	***	-0.0032	***	0.0158	***	0.0000		1.9862	***
	(0.0015)		(0.0015)		(2.5309)		(0.0033)		(0.0001)		(0.0010)		(0.0019)		(0.0003)		(0.5658)	
LOG_AGE(-1)	-0.2906	**	-0.6452	***	745.4119	***	0.9688	***	-0.0199	**	0.5430	***	0.1915		0.1069	***	-29.3005	
	(0.1279)		(0.1292)		(198.9044)		(0.3002)		(0.0081)		(0.0830)		(0.1555)		(0.0272)		(45.0726)	
RDES	-13.9546	***	-11.3837	***	6961.9360	**	71.9810	***	1.6805	***	-4.1379	***	-3.6645		-2.5790	***	9761.0320	***
	(1.9156)		(1.9500)		(2938.0080)		(4.3977)		(0.1182)		(1.2393)		(2.3116)		(0.4065)		(651.1211)	
ALTMANZ	0.0687		0.1110	*	330.6118	***	1.1902	***	0.0391	***	0.4423	***	1.1907	***	0.0316	**	98.8297	***
	(0.0582)		(0.0591)		(89.1492)		(0.1378)		(0.0037)		(0.0377)		(0.0700)		(0.0124)		(20.1949)	
ABSORBED_SLACK (-1)	0.0192	***	0.0573	***	96.1171	***	0.1053	***	0.0077	***	-0.0263	***	0.0954	***	-0.0075	***	18.4599	***
	(0.0055)		(0.0055)		(8.5897)		(0.0127)		(0.0003)		(0.0036)		(0.0067)		(0.0012)		(1.9268)	
UNABSORBED_SLACK (-1)	0.0034	***	0.0032	***	-0.1752		0.0080	***	0.0001	***	0.0004		-0.0052	***	0.0000		-0.8982	***
	(0.0005)		(0.0005)		(0.7566)		(0.0012)		(0.0000)		(0.0003)		(0.0006)		(0.0001)		(0.1708)	
POTENTIAL_SLACK (-1)	-0.0001		0.0012	***	-1.1441	***	-0.0050	***	0.0000		-0.0010	***	0.0008	**	0.0001	*	0.1308	
	(0.0003)		(0.0003)		(0.4192)		(0.0007)		(0.0000)		(0.0002)		(0.0003)		(0.0001)		(0.0987)	
R^2	0.2343		0.1299		0.4634		0.1417		0.1888		0.2929		0.3693		0.2473		0.4642	
Adjusted R^2	0.2342		0.1298		0.4634		0.1416		0.1887		0.2928		0.3692		0.2473		0.4641	
F-statistic	3839.03	***	1723.23	***	10387.05	***	2428.99	***	3409.48	***	5201.01	***	7335.24	***	4057.02	***	13300.77	***
Observations	125473		115479		120280		147139		146527		125595		125289		123468		153552	

Table 5.18 presents the results of the second robustness check. The location choice is operationalized by an aggregate psychic distance index, which is calculated as the square root of the sum of the square of nine psychic distances (i.e., economic, financial, political, administrative, cultural, demographic, knowledge, global connectedness, and geographic) (Morosini, Shane, & Singh, 1998).

The empirical results in Table 5.18 showed a statistically significant U-shaped relationship between performance feedback and the aggregate psychic distance index, which is consistent with the main results. The significant and negative relationship between below-aspiration performance ($PERFEED_ASPL < 0$) and the aggregate psychic distance index provides further support to Hypothesis (6), as it indicates that negative performance feedback induces problemistic search and increases the risk tolerance level. Therefore, below-aspiration performing firms are more likely to select psychically distant locations for foreign investment. This robustness result also confirms that the magnitude of attainment discrepancy between performance and aspiration level is positively associated with psychic distances.

The relationship between slack and aggregate psychic distance index is also qualitatively the same as in the main results. All three kinds of slack, that is, absorbed slack, unabsorbed slack, and potential slack, show a significant and positive relationship with aggregate psychic distance index. This relationship is consistent with the main results and fully supports Hypothesis (7). The result of the robustness check also presents a statistically significant moderating effect of unabsorbed slack and potential slack on the relationship between performance feedback and aggregate psychic distance index. When the interaction term of slack and performance feedback is added, performance feedback shows higher sensitivity in the prediction of foreign location choice, as measured by the aggregate psychic distance index. This finding is consistent with the results in the main analysis and supports Hypothesis (8) that slack moderates the relationship between performance feedback and foreign location choice.

Table 5.18: Robustness check of foreign location choice – aggregate psychic distance index

This table presents the results of robustness check for the effects of performance feedback, slack, and the moderating effect of slack on location choice, as measured by the aggregate psychic distance index, for a sample of publicly listed firms in Japan. The aggregate psychic distance is measured by the square root of the sum of the square of the nine psychic distance dimensions (i.e., economic, financial, political, administrative, cultural, demographic, knowledge, global connectedness, and geographic). FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Model 6		Model 7		Model 8	
Constant	11049.2800 *** (698.8577)		8433.5610 *** (734.1303)		7799.7970 *** (742.2673)	
PERFEED_ASPL (-1) <0	-82.0001 *** (26.5421)				-109.1338 ** (51.6198)	
PERFEED_ASPL (-1) >0	169.9511 *** (37.9287)				177.9155 *** (51.9285)	
FAFF (-1)	5.6782 ** (2.2187)		5.5402 ** (2.2074)		5.4638 ** (2.2066)	
LOG_AGE (-1)	317.3575 * (167.3346)		608.9724 *** (168.3957)		727.8067 *** (169.0551)	
ABSORBED_SLACK (-1)			80.2660 *** (6.3431)		79.2644 *** (6.5671)	
UNABSORBED_SLACK (-1)			1.3843 ** (0.5516)		1.6687 *** (0.5884)	
POTENTIAL_SLACK (-1)			-1.5286 *** (0.3167)		-2.3951 *** (0.3806)	
ABSORBED_SLACK (-1)					-0.6096 (1.6284)	
*PERFEED_ASPL (-1)					0.3722 *** (0.1246)	
UNABSORBED_SLACK (-1)					-0.1322 *** (0.0502)	
*PERFEED_ASPL (-1)						
POTENTIAL_SLACK (-1)						
*PERFEED_ASPL (-1)						
R^2	0.4715		0.4711		0.4713	
Adjusted R^2	0.4715		0.4711		0.4713	
F-statistic	22061.59		18282.62		9981.61	
Observations	123656		123172		123172	

The last robustness check tests the validity of multidimensional psychic distances by the principal component of psychic distance. The result of the factor analysis in Table 5.19 indicates that four principal components of psychic distance can together explain up to 77.107% of the total sample variability. Cultural distance is the most critical component, accounting for 21.237% of the variance. This is as expected, as cultural distance is the most dominant proxy of psychic distance and has been widely used in empirical research on the internationalization process for a long time. Four variables of the principal component of psychic distance are constructed for the robustness check. The principal

component is calculated by a weighted average of the standardized score of psychic distance in each component. The weight of each dimension is its factor loading, as shown in Table 5.20. Therefore, the principal components of psychic distance between a home country (i.e., Japan) and a host country are operationalized as follows:

$$PC_PD(1)_{i,t,n} = 0.92 * Z_{GEO,i,t,n} + 0.659 * Z_{CUL_G,i,t,n}$$

$$PC_PD(2)_{i,t,n} = 0.789 * Z_{KNOW,i,t,n} + 0.75 * Z_{POLITC,i,t,n}$$

$$PC_PD(3)_{i,t,n} = 0.828 * Z_{FINAN,i,t,n} + 0.805 * Z_{ECON,i,t,n}$$

$$PC_PD(4)_{i,t,n} = 0.759 * Z_{ADMIN,i,t,n} + 0.714 * Z_{GCON,i,t,n} + 0.667 * Z_{DEMO,i,t,n}$$

where $PC_PD_{i,t,n}$ denotes the principal components of psychic distance between Japan and country n , for firm i , and in year t . $Z_{p,i,t,n}$ is the standardized score or Z-score of psychic distance between Japan and country n , in dimension p (i.e., economic (ECON), financial (FINAN), political (POLITC), administrative (ADMIN), cultural distance (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO)), for firm i , in year t .

Table 5.19: Total variance explained by principal components

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.142	23.799	23.799	2.142	23.799	23.799	1.911	21.237	21.237
2	2.063	22.924	46.723	2.063	22.924	46.723	1.712	19.02	40.257
3	1.4	15.559	62.282	1.4	15.559	62.282	1.692	18.805	59.062
4	1.334	14.825	77.107	1.334	14.825	77.107	1.624	18.045	77.107
5	0.741	8.233	85.341						
6	0.501	5.57	90.91						
7	0.443	4.923	95.833						
8	0.204	2.264	98.097						
9	0.171	1.903	100						

Table 5.20: Factor loadings of psychic distance dimensions in each principal component

Rotated Component Matrix^a				
	Component			
	1	2	3	4
GEO	0.92			
CUL_G	0.659			
KNOW		0.789		
POLITC		0.75		
FINAN			0.828	
ECON			0.805	
ADMIN				0.759
GCON				0.714
DEMO				0.667

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

a. Rotation converged in 7 iterations.

Tables 5.21 to Table 5.23 present the results of the robustness check using the principal component of psychic distance as a proxy for a foreign location choice. Location choices are operationalized by the four principal components of psychic distance (PC_PD(1) to PC_PC(4)) extracted from confirmatory factor analysis. Principal component (1) or PC_PD (1) is the weighted average z-scores of geographic and cultural distances. Principal component (2) or PC_PD (2) is the weighted average z-scores of knowledge and political distance. Principal component (3) or PC_PD (3) is the weighted average z-scores of financial and economic distances. Principal component (4) or PC_PD (4) is the weighted average z-scores of administrative, global connectedness, and demographic distances. The z-score of each psychic distance dimension is weighted by the factor loading (see Table 5.20)

Table 5.21 shows the results of robustness check for the relationship between performance feedback and psychic distance. Consistent with the main results and those of other robustness checks, a statistically significant U-shaped relationship is found between performance feedback and principal components (1), (2), and (4) of psychic distance. This result provides further support to Hypothesis (6) and confirms that the magnitude of attainment discrepancy between performance and aspiration level is positively associated with psychic distances. The more diverse a firm's performance is from the

aspiration level, whether in a good or bad way, the more likely it is that the firm invests in a location at great psychic distance. The principal component (2) (PC_PD (2)), which is the weighted average z-scores of knowledge and political distances, shows the highest r-square and the greatest sensitivity of performance feedback (coefficient = -0.0217 for performance below aspiration level and coefficient = 0.0369 for performance above aspiration level). Therefore, firms are likely to select a location with relatively large knowledge and political distances in response to performance feedback. Note that the relationship between performance feedback, whether positive or negative, and the principal component (3), which is a combination of financial and economic distances, is not statistically significant. This insignificant result suggests that in response to performance feedback, firms may not consider financial distance and economic distance as critical factors when selecting a location for foreign investment.

Table 5.22 shows the results of the robustness check for the relationship between slack and psychic distance. Note that potential slack is measured as the ratio of debt to stockholder's equity; thus, a positive coefficient indicates a negative relationship. Except the negative relationship between potential slack and principal component (3), the empirical findings of this robustness check show a positive relationship between absorbed slack, unabsorbed slack, and potential slack, and the principal components of psychic distance, supporting Hypothesis (7). The relationship between absorbed slack and principal component (1), (2), and (3) is significant and positive. An insignificant relationship between absorbed slack and principal component (4) could be interpreted that absorbed slack, as measured by the ratio of SG&A expenses to sales, is not a critical factor when selecting a location at great distance in terms of administrative system, global connectedness, and demographic characteristics. The relationship between unabsorbed slack and principal component (1), (3), and (4) is also significant and positive. An insignificant relationship between unabsorbed slack and the principal component (2) could be interpreted as implying that unabsorbed slack, as measured by the quick ratio, is not a critical factor when selecting a location at great distance in terms of knowledge and political stability. Potential slack presents a significant and positive relationship with all principal components of psychic distance. This empirical finding suggests that the borrowing capacity of firms is the most critical factor for foreign investment in psychically distant locations.

Table 5.23 shows the result of robustness check for the moderating effect of slack on the relationship between performance feedback and psychic distance. In line with the main results, the moderating effect is significant for absorbed slack on the relationship between performance feedback and principal component (3), for unabsorbed slack on the relationship between performance feedback and principal component (1) and (2), and for potential slack on the relationship between performance feedback and principal component (2) and (4). When compared to the results of model (6) in Table 5.21, the coefficients of performance feedback of model (8) in Table 5.23, either negative or positive ($PERFEED_ASPL < 0$ and $PERFEED_ASPL > 0$), are higher. This empirical finding suggests that firms with excess slack are likely to exhibit a higher speed of internationalization in response to performance feedback, which is consistent with the main results and supports Hypothesis (8).

In summary, the empirical results of the robustness check using the principal component of psychic distance are mostly consistent with the main results. The relationships between performance feedback and foreign location choice, as operationalized by the principal component, are U-shape. The relationships between slack and foreign location choice are also positive and statistically significant. Principal components can well represent multidimensional psychic distance because most principal components show the same sensitivity to performance feedback and slack as the key dimensions of psychic distance in the main analysis. Among the four principal components, principal component (1) (PC_PD 1) is the best measurement of psychic distance, as it presents a statistically significant relationship with both performance feedback and all three types of organizational slack (i.e., absorbed slack, unabsorbed slack, and potential slack). Table 5.25 summarizes the regression results of robustness check for the study of a behavioral perspective on the location choice of a firm.

Table 5.21: Robustness check of the effect of performance feedback on foreign location choice – principal component of psychic distance

This table presents the results of robustness check for the effects of performance feedback on the location choice for a sample of publicly listed firms in Japan. Location choices are operationalized by four principal components of psychic distance (PC_PD (1), PC_PD (2), PC_PD (3) and PC_PD (4)). PC_PD (1) is the weighted average z-scores of geographic and cultural distances. PC_PD (2) is the weighted average z-scores of knowledge and political distance. PC_PD (3) is the weighted average z-scores of financial and economic distances. PC_PD (4) is the weighted average z-scores of administrative, global connectedness and demographic distances. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback, as measured by the firm's return on asset (ROA) minus aspiration level. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Model 6							
	PC_PD (1)		PC_PD (2)		PC_PD (3)		PC_PD (4)
Constant	0.5391 *** (-0.0566)		-0.5699 *** (-0.0573)		0.7737 *** (-0.0647)		-0.1025 (-0.0639)
PERFEED_ASPL (-1) <0	-0.0085 *** (-0.0022)		-0.0217 *** (-0.0023)		-0.0003 (-0.0026)		-0.0143 *** (-0.0025)
PERFEED_ASPL (-1) >0	0.0124 *** (-0.0034)		0.0369 *** (-0.0033)		-0.0033 (-0.0038)		0.0182 *** (-0.0037)
FAFF (-1)	0.0020 *** (-0.0002)		0.0018 *** (-0.0002)		-0.0011 *** (-0.0002)		-0.0013 *** (-0.0002)
LOG_AGE (-1)	-0.1514 *** (-0.0136)		0.1116 *** (-0.0138)		-0.1579 *** (-0.0157)		0.0502 *** (-0.0154)
R^2	0.3246		0.4743		0.193		0.2009
Adjusted R^2	0.3246		0.4742		0.193		0.2008
F-statistic	18403.73 ***		29307.69 ***		7196.57 ***		7455.72 ***
Observations	191477		162450		150418		148310

Table 5.22: Robustness check of the effect of slack on foreign location choice – principal component of psychic distance

This table presents the results of robustness check for the effects of organizational slack on the location choice for a sample of publicly listed firms in Japan. Location choices are operationalized by four principal components of psychic distance (PC_PD (1), PC_PD (2), PC_PD (3) and PC_PD (4)). PC_PD (1) is the weighted average z-scores of geographic and cultural distances. PC_PD (2) is the weighted average z-scores of knowledge and political distance. PC_PD (3) is the weighted average z-scores of financial and economic distances. PC_PD (4) is the weighted average z-scores of administrative, global connectedness, and demographic distances. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Model 7							
	PC_PD (1)		PC_PD (2)		PC_PD (3)		PC_PD (4)
Constant	0.0200 (-0.0594)		-0.7582 (-0.0607)	***	0.5041 (-0.0686)	***	-0.2479 (-0.0674)
FAFF (-1)	0.0018 (-0.0002)	***	0.0017 (-0.0002)	***	-0.0010 (-0.0002)	***	-0.0010 (-0.0002)
LOG_AGE (-1)	-0.1046 (-0.0137)	***	0.1295 (-0.0140)	***	-0.1313 (-0.0159)	***	0.0829 (-0.0155)
ABSORBED_SLACK (-1)	0.0149 (-0.0005)	***	0.0092 (-0.0005)	***	0.0035 (-0.0006)	***	0.0001 (-0.0006)
UNABSORBED_SLACK (-1)	0.0003 (0.0000)	***	0.0001 (0.0000)		0.0004 (-0.0001)	***	0.0006 (-0.0001)
POTENTIAL_SLACK (-1)	-0.0001 (0.0000)	**	-0.0002 (0.0000)	***	0.0001 (0.0000)	***	-0.0003 (0.0000)
R^2	0.3288		0.4742		0.1931		0.2025
Adjusted R^2	0.3287		0.4741		0.1931		0.2024
F-statistic	15548.1	***	24289.51	***	5971.65	***	6247.27
Observations	190486		161630		149697		147670

Table 5.23: Robustness check of the moderating effect of slack – principal component of psychic distance

This table presents the results of robustness check for the moderating effect of organizational slack, on the relationship between performance feedback and location choice, for a sample of publicly listed firms in Japan. Location choices are operationalized by the four principal components of psychic distance (PC_PD (1), PC_PD (2), PC_PD (3) and PC_PD (4)). PC_PD (1) is the weighted average z-scores of geographic and cultural distances. PC_PD (2) is the weighted average z-scores of knowledge and political distance. PC_PD (3) is the weighted average z-scores of financial and economic distances. PC_PD (4) is the weighted average z-scores of administrative, global connectedness, and demographic distances. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback, as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK is measured as the ratio of Selling, General, and Administrative Expenses (SG&A) to total sales. UNABSORBED_SLACK is measured as the ratio of quick assets to total liabilities. POTENTIAL_SLACK is measured as the ratio of debt to shareholder's equity. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Model 8							
	PC_PD (1)		PC_PD (2)		PC_PD (3)		PC_PD (4)
Constant	-0.0222 (0.0600)		-0.8723 (0.0609)	***	0.4930 (0.0693)	***	-0.3116 (0.0681)
PERFEED_ASPL (-1) <0	-0.0139 (0.0044)	***	-0.0260 (0.0044)	***	-0.0113 (0.0051)	**	-0.0173 (0.0050)
PERFEED_ASPL (-1) >0	0.0059 (0.0046)		0.0384 (0.0045)	***	-0.0159 (0.0052)	***	0.0228 (0.0051)
FAFF (-1)	0.0018 (0.0002)	***	0.0016 (0.0002)	***	-0.0010 (0.0002)	***	-0.0010 (0.0002)
LOG_AGE (-1)	-0.0987 (0.0137)	***	0.1489 (0.0140)	***	-0.1329 (0.0159)	***	0.0959 (0.0156)
ABSORBED_SLACK (-1)	0.0149 (0.0005)	***	0.0090 (0.0005)	***	0.0039 (0.0006)	***	-0.0003 (0.0006)
UNABSORBED_SLACK (-1)	0.0003 (0.0000)	***	0.0001 (0.0000)		0.0005 (0.0001)	***	0.0006 (0.0001)
POTENTIAL_SLACK (-1)	-0.0001 (0.0000)	***	-0.0003 (0.0000)	***	0.0002 (0.0000)	***	-0.0004 (0.0000)
ABSORBED_SLACK (-1)	0.0001 (0.0001)		-0.000001 (0.0001)		0.0003 (0.0002)	**	-0.0001 (0.0002)
*PERFEED_ASPL (-1)	0.00004 (0.00001)	***	0.00003 (0.00001)	***	0.00002 (0.00001)		0.00001 (0.00001)
UNABSORBED_SLACK (-1)	-0.000004 (0.0000)		-0.00001 (0.0000)	***	0.00001 (0.0000)	**	-0.00001 (0.0000)
*PERFEED_ASPL (-1)							
POTENTIAL_SLACK (-1)							
*PERFEED_ASPL (-1)							
R^2	0.3289		0.4749		0.1932		0.2030
Adjusted R^2	0.3289		0.4749		0.1931		0.2029
F-statistic	8486.71	***	13289.70	***	3258.66	***	3418.89
Observations	190486		161630		149697		147670

5.2.3 Summary of main results and robustness check on the study of foreign location choice

Table 5.24: Summary of the main results of hypothesis testing on the study of foreign location choice

Independent Variables		Est. Sign	Psychic Distance																	
			ECON	HT	FINAN	HT	POLITC	HT	ADMIN	HT	CUL_G	HT	DEMO	HT	KNOW	HT	GCON	HT	GEO	HT
H6	Performance Feedback <0	-	-0.0723 ***	Yes	0.0732 ***	No	-148.07 ***	Yes	-0.434 ***	Yes	-0.0104 ***	Yes	-0.149 ***	Yes	-0.2772 ***	Yes	0.0333 ***	No	-6.9365	No
	Performance Feedback >0	-	0.0804 ***	No	-0.1297 ***	Yes	299.71 ***	No	0.6504 ***	No	0.0168 ***	No	0.208 ***	No	0.3886 ***	No	-0.0258 ***	Yes	1.6000	No
H7	Absorbed slack	+	-0.0051	No	0.0476 ***	Yes	73.87 ***	Yes	0.2097 ***	Yes	0.01 ***	Yes	-0.028 ***	No	0.0844 ***	Yes	-0.0084 ***	No	30.878 ***	Yes
	Unabsorbed slack	+	0.0033 ***	Yes	0.0024 ***	Yes	1.84 ***	Yes	0.0172 ***	Yes	0.0004 ***	Yes	0.002 ***	Yes	0.0002	Yes	-0.0002 **	No	0.1659	Yes
	Potential Slack	-	-0.0002 **	Yes	0.0017 ***	No	-1.91 ***	Yes	-0.007 ***	Yes	-0.0001 ***	Yes	-0.002 ***	Yes	-0.0014 ***	Yes	0.0002 ***	No	-0.0024	Yes
H8	Absorbed slack *Performance feedback	-	0.0012	No	0.0032 ***	No	0.07	No	-0.0006	No	0.00002	No	-0.001	Yes	0.0003	No	-0.0001	No	0.3133	No
	Unabsorbed slack *Performance feedback	-	0.0001	No	0.0002 *	No	0.33 ***	No	0.0009 ***	No	0.00002 ***	No	0.0000	No	0.0002	No	0.0000	No	0.1241 ***	No
	Potential slack *Performance feedback	-	0.0000	No	0.0002 ***	No	-0.16 ***	Yes	-0.0004 ***	Yes	-0.00001 ***	Yes	-0.0001 ***	Yes	0.00004	No	0.0000	No	0.010	No

Note that HT denotes “hypothesis supported,” indicating whether the empirical results support the hypothesis. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5.25: Summary of the results of robustness check on the study of foreign location choice

Robustness check	Dependent variables (Psychic distance)	Performance Feedback <0	Performance Feedback >0	Absorbed slack	Unabsorbed slack	Potential slack	Absorbed slack * Performance feedback	Unabsorbed slack * Performance feedback	Potential slack * Performance feedback
Control for R&D intensity and distance from bankruptcy	Economic	-0.0933***	0.045	0.0192***	0.0034***	-0.0001			
	Financial	-0.0412*	0.0294	0.0573***	0.0032***	0.0012***			
	Political	-60.5785*	167.6756***	96.1171***	-0.1752	-1.1441***			
	Administrative	-0.3963***	0.2691***	0.1053***	0.008***	-0.0050***			
	Cultural	-0.0076***	0.0095***	0.0077***	0.0001***	0.0000			
	Demographic	-0.1646***	0.072***	-0.0263***	0.0004	-0.001***			
	Knowledge	-0.3091***	0.2465***	0.0954***	-0.0052***	0.0008**			
	Global connectedness	0.0162***	-0.0101	-0.0075***	0	0.0001*			
	Geographic	0.5244	1.3068	18.4599***	-0.8982***	0.1308			
Psychic distance is operationalized by aggregate psychic distance index	Aggregate psychic distance index	-82.0001***	169.9511***	80.266***	1.3843**	-1.5286***	-0.6096	0.3722***	-0.1322***
Psychic distance is operationalized by principal component of psychic distance	PC_PD (1)	-0.0085***	0.0124***	0.0149***	0.0003***	-0.0001**	0.0001	0.00004***	-0.0000
	PC_PD (2)	-0.0217***	0.0369***	0.0092***	0.0001	-0.0002***	-0.0000	0.00003***	-0.00001***
	PC_PD (3)	-0.0003	-0.0033	0.0035***	0.0004***	0.0001***	0.0003**	0.00002	0.00001**
	PC_PD (4)	-0.0143***	0.0182***	0.0001	0.0006***	-0.0003***	-0.0001	0.00001	-0.00001***

Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

5.3 Robustness check on time series

5.3.1 Empirical results and discussions

The focus of this dissertation is to study the internationalization behavior and location choices of Japanese firms based on a long period of time series data, from 1991–2017. Although the results of this 27-year analyses show statistically significant patterns of internationalization process and foreign location choices, they do not rule out the possibility of a change in an underlying time trend. Taking important events, such as the peak of economic cycle in Japan in 1991⁵ and the global financial crisis in 2008 as interruptions of time series analyses, I disaggregate a time-series into interval years to conduct a robustness check for changes in the relationship of speed of internationalization processes and psychic distances. Because the time series is disaggregated to shorter interval years, a fixed model regression causes the autocorrelation problem, as the Durbin–Watson statistic increases to 2.70-2.80 and the F-statistics are mostly insignificant. Therefore, a pooled OLS method is applied with one-year lag on independent variables for this time series robustness check. A pooled GLS method is used to check time series robustness for location choice, which is similar to the main study.

Japanese economic growth rate peaked in 1991 and slowed significantly afterward (Bayoumi & Collins, 2000; Okina, Shirakawa, & Shiratsuka, 2001). The appreciation of the Japanese yen triggered a massive outflow of Japanese FDI because it made foreign assets relatively cheap (Song, 2002; Chang, 1995). The appreciation of the yen continued through 1995 and then began depreciating with the slow recovery of the Japanese economy (Obstfeld, 2009; Takagi, 1999; Okina et al., 2001; Posen, 2003); therefore, the first interval year for time series analysis is from 1992–1994.

⁵ According to the report by Bank of Japan (Mori, Shiratsuka, & Taguchi, 2001; Okina, Shirakawa, & Shiratsuka, 2001), views differ as to when the bubble economy in Japan began to burst. Stock prices in terms of the Nikkei 225 peaked at end-1989, while land prices in terms of the Urban Land Price Index, as measured by land prices in six major cities and commercial areas, of the Japan Real Estate Institute peaked around 1990. The year-on-year growth rate of money supply (M2+CDs) peaked in April and May 1990. Economic Planning Agency (EPA) concluded that the Japanese economic cycle peaked in February 1991 as indicated by the peak of CPI inflation. To be more specific, inflation in Japan, as measured by the annual growth rate of the GDP implicit deflator, in 1988, 1989, 1990, 1991, 1992, and 1993 were 0.625, 2.109, 2.605, 2.928, 1.667, and 0.568 respectively.

In late 2008, the real estate bubble in the US burst shortly after the failure of Lehman Brothers on September 15 (Phillips & Yu, 2011). The collapse of giant financial institutions in the US brought the global economy into a recession in 2008–2009, which slowly recovered in 2009–2011. Financial distress has eased since April 2014, as the leading indicators point to strengthening global economic recovery in the second quarter of 2014 (IMF, 2014). To capture pattern changes during the crisis, I test another time series by the second and third interval years, that is, 2003–2007 and 2009–2013, which are five years before and after the crisis. For additional robustness check, I also undertake the time series analyses between 1995–2002 and 2014–2017. Firms conducted normal business operations during 1995–2002, as there were no interruptions by disastrous economic or political events. Similarly, 2014–2017 is also when firms could conduct normal business operations due to global economic recovery. The last period of time series analysis, that is, 2014–2017, reflects the most recent firm behaviors in internationalization and location choices.

Table 5.26 presents the results of robustness check for the relationship between performance feedback and speed of internationalization for the analytical periods of 1992–1994 (after the peak of economic cycle in Japan), 1995–2002 (normal period), 2003–2007 (period before the global financial crisis), 2009–2013 (period after the global financial crisis), and 2014–2017 (most recent period). Similar to the main analysis, the speed of internationalization is measured in four dimensions: (1) speed of change in the degree of internationalization (FSTSP), (2) speed of change in the commitment of foreign resources (FETEP), (3) speed of change in the degree of internationalization (FAFFP), and (4) speed of change in the breadth of international markets (FCONP). This empirical analysis is based on model (1), which tests the relationship between performance feedback and speed of internationalization, controlling for the effect of international experience and firm's age.

The empirical results of the robustness check are mostly consistent with the results of model (1) in the main analysis. Although the general patterns of the relationship between performance feedback and speed of internationalization are qualitatively the same as in the main findings (i.e., the inverted U-shaped relationship), the influence of performance feedback on the multidimensional speed

of internationalization (i.e., speed of change in the degree of internationalization, speed of change in the commitment of foreign resources, and the speed of change in the breadth of foreign markets) varies in terms of intensity and directions across time (see the summary in Table 5.28). Interestingly, throughout 1995–2017, negative performance feedback ($PERFEED_ASPL < 0$) consistently presents positive coefficients in the prediction of all dimensions of speed of internationalization. The positive relationship between negative performance feedback and speed of internationalization supports the result in the main analysis that firms are inclined to decrease the speed of internationalization as their performance becomes negatively diverse from the aspiration level. Firms that perform below their aspiration levels are likely to increase the speed of internationalization if they perceive the gap between performance and aspiration levels as attainable. In contrast, when performances are far below aspiration levels, firms might recognize this gap as a threat, shifting focus to market survival and avoiding risky strategic actions. The positive relationship between negative performance feedback ($PERFEED_ASPL < 0$) is especially significant in 1995–2002, which is when firms conducted normal business operations and were not interrupted by any negative economic events. This empirical finding suggests that negative performance feedback can best explain the pattern of firm internationalization during a normal business environment period.

Table 5.26: Robustness check of the validity of time series analysis – study on the speed of internationalization

This table presents the results of robustness check for the time series analysis of the relationship between performance feedback and speed of internationalization process (model 1). The analytical period is disaggregated to 1992–1994, 1995–2002, 2003–2007, 2009–2013, and 2014–2017. The speed of internationalization is measured as FSTSP, FETEP, FAFFP, and FCONP. FSTSP is measured as the percentage change in the ratio of foreign sales to total sales in year t when compared to year $t-1$. FETEP is measured as the percentage change in the ratio of foreign employees to total Japanese employees (FETE) in year t when compared to year $t-1$. FAFFP is measured as the percentage change in the number of foreign affiliates and subsidiaries in year t when compared to year $t-1$. FCONP is measured as the percentage change in the number of foreign locations in year t when compared to year $t-1$. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback as measured by the firm's return on asset (ROA) minus aspiration level. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Model 1 (FSTSP)									
	1992–1994		1995–2002		2003–2007		2009–2013		2014–2017
Constant	1.3256 *** (0.1289)		0.9839 *** (0.0286)		0.9946 *** (0.0195)		1.0114 *** (0.0132)		1.0265 *** (0.0141)
PERFEED_ASPL(-1)<0	-0.0069 (0.0069)		0.0050 *** (0.0010)		0.0017 ** (0.0007)		0.0005 (0.0005)		0.0043 *** (0.0006)
PERFEED_ASPL(-1)>0	0.0080 (0.0089)		-0.0046 *** (0.0015)		-0.0043 *** (0.0010)		-0.0007 (0.0007)		-0.0035 *** (0.0008)
FAFF(-1)	-0.0076 * (0.0042)		-0.0004 ** (0.0002)		-0.0009 *** (0.0001)		-0.0005 *** (0.0001)		-0.0005 *** (0.0001)
LOG_AGE(-1)	-0.0633 * (0.0329)		0.0185 *** (0.0072)		0.0217 *** (0.0048)		0.0059 * (0.0032)		0.0081 ** (0.0033)
R^2	0.0129		0.0051		0.0106		0.0032		0.0112
Adjusted R^2	0.0065		0.0046		0.0101		0.0028		0.0107
F-statistic	2.0035 ***		9.6799 ***		24.3279 ***		8.2364 ***		24.7794 ***
Firms included	66		470		491		561		572
Observations	154		1897		2280		2605		2190

Model 1 (FETEP)									
	1992–1994		1995–2002		2003–2007		2009–2013		2014–2017
Constant	1.0827 *** (0.0443)		1.0790 *** (0.0300)		0.9634 *** (0.0364)		0.9273 *** (0.0294)		0.9445 *** (0.0619)
PERFEED_ASPL(-1)<0	-0.0064 *** (0.0020)		0.0082 *** (0.0011)		0.0022 * (0.0013)		0.0027 *** (0.0010)		0.0049 *** (0.0023)
PERFEED_ASPL(-1)>0	0.0043 (0.0034)		-0.0006 (0.0016)		-0.0039 ** (0.0017)		-0.0009 (0.0014)		-0.0045 *** (0.0036)
FAFF(-1)	-0.0013 *** (0.0003)		-0.0017 *** (0.0002)		-0.0011 *** (0.0002)		-0.0013 *** (0.0002)		-0.0002 (0.0005)
LOG_AGE(-1)	-0.0032 (0.0113)		0.0051 (0.0075)		0.0195 ** (0.0089)		0.0304 *** (0.0070)		0.0234 *** (0.0147)
R^2	0.0062		0.0097		0.0040		0.0061		0.0042
Adjusted R^2	0.0054		0.0095		0.0036		0.0057		0.0022
F-statistic	7.7169 ***		35.5822 ***		9.3025 ***		15.67777 ***		8.4343 ***
Firms included	441		542		512		582		551
Observations	1226		3603		2293		2522		1957

Model 1 (FAFFP)										
Variables	1992-1994		1995-2002		2003-2007		2009-2013		2014-2017	
Constant	1.1782	***	1.1082	***	1.1793	***	1.0691	***	1.0443	***
	(0.0239)		(0.0139)		(0.0156)		(0.0123)		(0.0110)	
PERFEED_ASPL(-1)<0	0.0014		0.0046	***	0.0014	**	0.0035	***	0.0007	
	(0.0012)		(0.0005)		(0.0006)		(0.0005)		(0.0005)	
PERFEED_ASPL(-1)>0	-0.0063	***	0.0008		-0.0015	*	-0.0012	*	-0.0003	
	(0.0020)		(0.0008)		(0.0008)		(0.0007)		(0.0007)	
FAFF(-1)	-0.0008	***	-0.0009	***	-0.0012	***	-0.0011	***	-0.0007	***
	(0.0002)		(0.0001)		(0.0001)		(0.0001)		(0.0001)	
LOG_AGE(-1)	-0.0260	***	-0.0087	**	-0.0280	***	0.0025		0.0008	
	(0.0061)		(0.0035)		(0.0038)		(0.0029)		(0.0026)	
R^2	0.0090		0.0118		0.0213		0.0160		0.0083	
Adjusted R^2	0.0082		0.0116		0.0210		0.0157		0.0079	
F-statistic	12.1187	***	49.2257	***	58.5431	***	51.0275	***	22.1102	***
Firms included	462		560		550		658		684	
Observations	1342		4126		2685		3133		2649	

Model 1 (FCONP)										
	1992-1994		1995-2002		2003-2007		2009-2013		2014-2017	
Constant	1.1299	***	1.1069	***	1.1104	***	1.0460	***	1.0366	***
	(0.0172)		(0.0098)		(0.0107)		(0.0087)		(0.0083)	
PERFEED_ASPL(-1)<0	0.0021	**	0.0038	***	0.00002		0.0028	***	0.0007	**
	(0.0009)		(0.0004)		(0.0004)		(0.0003)		(0.0004)	
PERFEED_ASPL(-1)>0	-0.0052	***	0.0001		0.0006		-0.0007		0.0001	
	(0.0014)		(0.0006)		(0.0005)		(0.0005)		(0.0005)	
FAFF(-1)	-0.0003	**	-0.0005	***	-0.0007	***	-0.0006	***	-0.0004	***
	(0.0001)		(0.0001)		(0.0001)		(0.0001)		(0.0001)	
LOG_AGE(-1)	-0.0190	***	-0.0145	***	-0.0183	***	0.0016		-0.0004	
	(0.0044)		(0.0025)		(0.0026)		(0.0021)		(0.0020)	
R^2	0.0076		0.0126		0.0161		0.0120		0.0054	
Adjusted R^2	0.0069		0.0124		0.0157		0.0117		0.0050	
F-statistic	10.2574	***	52.6423	***	43.9446	***	38.1325	***	14.3175	***
Firms included	462		560		550		659		684	
Observations	1342		4126		2685		3133		2649	

Table 5.27 presents the results of the robustness check of the relationship between performance feedback and location choices, disaggregating the analytical periods into 1992–1994, 1995–2002, 2003–2007, 2009–2013, and 2014–2017. Because data for some variables is available only up to 2015, the latest interval for economic, financial, political, demographic, knowledge, and global connectedness distances is 2014–2015. Similar to the main analysis, location choices are operationalized as per the nine dimensions of psychic distance: economic (ECON), financial (FINAN), political (POLITC), administrative (ADMIN), cultural distance (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO) distances. This empirical analysis is based on

model (6), which tests the relationship between performance feedback and psychic distance between home and host countries, controlling for the effect of international experience and firm's age.

The empirical analysis of model (6) in the main results presents significant U-shaped relationship between performance feedback and economic (ECON), political (POLITC), administrative (ADMIN), cultural (CUL_G), demographic (DEMO), and knowledge (KNOW) distances. Meanwhile, the relationship between performance feedback and geographic distance (GEO) is not statistically significant and the relationship between performance feedback and financial (FINAN) and global connectedness (GCON) distances is an inverted U-shape. The empirical results of the robustness check are generally consistent with the results of model (6) in the main analyses. Although the general patterns of the relationship between performance feedback and each psychic distance dimension are qualitatively the same as in the main findings, the influence of performance feedback on location choice, as operationalized by the nine dimensions of psychic distance, changes in terms of intensity and direction throughout the time (see the summary in Table 5.29). Interestingly, the relationship between performance feedback and cultural distance (CUL_G) shows not only the same pattern as in the main analysis (i.e., U-shaped relationship) but also the same pattern throughout all interval years (i.e., 1992–2017). In addition, the coefficients of both negative and positive performance feedback are statistically significant at $p < 0.01$ throughout 2003–2017. This empirical finding indicates that regardless of the negative effect from the economic crises, firms that perform much better or worse than their aspiration levels tend to select a location with different culture for foreign investment. This result, together with the robustness check of principal components of psychic distance by the factor analysis, strengthens the rationale for the use of cultural distance as a key measurement of cross-national distance in the literature of international business over decades (i.e., Morosini et al., 1998; Tihanyi, Griffith, & Russell, 2005; Chua, Roth, & Lemoine, 2015). Cultural distance can well predict the internationalization behavior of firms even in highly volatile situations.

Table 5.27: Robustness check of the validity of time series analysis – study on foreign location choice

This table presents the results of robustness check for the time series analysis of the relationship between performance feedback and location choices as operationalized by psychic distances (model 6). The analytical period is disaggregated to 1992–1994, 1995–2002, 2003–2007, 2009–2013, and 2014–2017. The cross-national psychic distance is measured in the following nine dimensions: economic (ECON), financial (FINAN), political (POLITC), administrative (ADMIN), cultural distance (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO) dimensions. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback as measured by the firm's return on asset (ROA) minus aspiration level. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Model 6 (ADMIN)										
	1992–1994		1995–2002		2003–2007		2009–2013		2014–2017	
Constant	95.8583 (2.0232)	***	104.9825 (1.1905)	***	92.7274 (1.3126)	***	89.5849 (0.8901)	***	91.3345 (1.0716)	***
PERFEED_ASPL(-1)<0	-0.2850 (0.1114)	***	-0.0521 (0.0486)		0.0167 (0.0472)		-0.4279 (0.0329)	***	-0.1431 (0.0446)	***
PERFEED_ASPL(-1)>0	0.6449 (0.2396)	***	0.4717 (0.0671)	***	0.0915 (0.0684)		0.3010 (0.0500)	***	0.4741 (0.0686)	***
FAFF(-1)	-0.0240 (0.0055)	***	-0.0380 (0.0022)	***	-0.0335 (0.0029)	***	-0.0375 (0.0031)	***	-0.0481 (0.0033)	***
LOG_AGE(-1)	-6.4661 (0.5060)	***	-7.5447 (0.2942)	***	-2.7617 (0.3171)	***	-1.2267 (0.2105)	***	-1.1242 (0.2521)	***
R^2	0.1148		0.1357		0.1356		0.1225		0.1297	
Adjusted R^2	0.1147		0.1357		0.1355		0.1225		0.1297	
F-statistic	1536.591	***	6944.298	***	5299.198	***	6092.81	***	6159.76	***
Observations	11855		44220		33789		43631		41335	

Model 6 (ECON)										
Variables	1992–1994		1995–2002		2003–2007		2009–2013		2014–2015	
Constant	7.8776 (0.7700)	***	9.5574 (0.4958)	***	9.5180 (0.4922)	***	8.3835 (0.3515)	***	9.5076 (0.6136)	***
PERFEED_ASPL(-1)<0	0.0405 (0.0421)		-0.0851 (0.0199)	***	-0.0366 (0.0176)	**	-0.0166 (0.0130)		-0.1121 (0.0285)	***
PERFEED_ASPL(-1)>0	0.2826 (0.0875)	***	0.1363 (0.0277)	***	0.0045 (0.0252)		-0.0214 (0.0194)		0.1635 (0.0372)	***
FAFF(-1)	0.0041 (0.0022)	*	-0.0013 (0.0010)		-0.0075 (0.0012)	***	-0.0157 (0.0013)	***	-0.0205 (0.0021)	***
LOG_AGE(-1)	-0.7089 (0.1925)	***	-0.6628 (0.1224)	***	-0.5933 (0.1188)	***	-0.1036 (0.0830)		-0.0976 (0.1442)	
R^2	0.2046		0.2501		0.2284		0.2137		0.2141	
Adjusted R^2	0.2046		0.2501		0.2283		0.2137		0.2141	
F-statistic	3027.042	***	14666.88	***	1654.619	***	11847.47	***	5468.37	***
Observations	11766		43967		27954		43597		20069	

Note: Data of economic distance is available up to 2015

Model 6 (CUL_G)									
Variables	1992-1994		1995-2002		2003-2007		2009-2013		2014-2017
Constant	3.3533	***	3.3846	***	2.7488	***	2.6464	***	2.5756 ***
	(0.0582)		(0.0349)		(0.0365)		(0.0236)		(0.0281)
PERFEED_ASPL(-1)<0	-0.0180	***	-0.0020		-0.0037	***	-0.0109	***	-0.0054 ***
	(0.0031)		(0.0014)		(0.0013)		(0.0009)		(0.0012)
PERFEED_ASPL(-1)>0	0.0088		0.0099	***	0.0113	***	0.0083	***	0.0181 ***
	(0.0061)		(0.0019)		(0.0019)		(0.0013)		(0.0018)
FAFF(-1)	0.0010	***	0.0000		0.0005	***	0.0016	***	0.0015 ***
	(0.0002)		(0.0001)		(0.0001)		(0.0001)		(0.0001)
LOG_AGE(-1)	-0.2956	***	-0.2883	***	-0.1119	***	-0.0816	***	-0.0557 ***
	(0.0146)		(0.0086)		(0.0088)		(0.0056)		(0.0066)
R^2	0.1268		0.1781		0.1793		0.1657		0.1768
Adjusted R^2	0.1267		0.1781		0.1792		0.1657		0.1768
F-statistic	1803.02	***	9856.29	***	7495.22		8560.73	***	8550.43 ***
Observations	12412		45465		34307		43088		39787

Model 6 (POLITC)									
	1992-1994		1995-2002		2003-2007		2009-2013		2014-2015
Constant	292.5116	***	2108.9220	***	9324.3680	***	17163.4800	***	25506.5900 ***
	(10.4064)		(248.4507)		(412.5230)		(609.3874)		(1330.9290)
PERFEED_ASPL(-1)<0	-2.1236	***	-48.8832	***	-6.8569		29.4092		-47.5524
	(0.5686)		(9.5227)		(14.5731)		(22.5631)		(61.5218)
PERFEED_ASPL(-1)>0	-0.1478		37.5412	***	28.2255		205.8416	***	254.0241 ***
	(1.1879)		(13.6472)		(20.2637)		(33.2853)		(80.9909)
FAFF(-1)	0.0214		3.2977	***	-0.4274		18.0161	***	3.5222
	(0.0291)		(0.6934)		(1.0629)		(2.3835)		(4.7617)
LOG_AGE(-1)	-29.7788	***	-48.0245		-424.2575	***	-841.1055	***	-759.6731 **
	(2.6011)		(60.8837)		(99.3379)		(143.4701)		(311.8320)
R^2	0.1791		0.5502		0.4192		0.4237		0.3960
Adjusted R^2	0.1790		0.5502		0.4192		0.4237		0.3960
F-statistic	2561.052	***	39935.34	***	22972.89	***	30348.89	***	12520.85 ***
Observations	11743		39184		31832		41282		19100

Note: Data of political distance is available up to 2015

Model 6 (FINAN)										
	1992-1994			1995-2002		2003-2007		2009-2013		2014-2015
Constant	14.0476	***		21.1478	***	12.8357	***	8.6604	***	7.5107
	(0.6804)			(0.4648)		(0.6141)		(0.4494)		(0.6088)
PERFEED_ASPL(-1)<0	0.0428			0.0408	**	-0.0695	***	-0.0864	***	-0.0399
	(0.0349)			(0.0183)		(0.0219)		(0.0165)		(0.0284)
PERFEED_ASPL(-1)>0	0.2541	***		-0.2449	***	0.0828	***	0.0644	***	0.1463
	(0.0685)			(0.0247)		(0.0312)		(0.0248)		(0.0368)
FAFF(-1)	0.0146	***		-0.0026	***	-0.0145	***	-0.0189	***	-0.0098
	(0.0019)			(0.0009)		(0.0014)		(0.0016)		(0.0020)
LOG_AGE(-1)	-1.1178	***		-2.4551	***	-1.1738	***	-0.3948	***	-0.2810
	(0.1706)			(0.1149)		(0.1483)		(0.1061)		(0.1431)
R^2	0.2055			0.2168		0.1281		0.1320		0.1221
Adjusted R^2	0.2055			0.2168		0.1281		0.1320		0.1221
F-statistic	2335.17	***		8536.35	***	4668.78	***	5759.76	***	2414.34
Observations	9027			30840		31767		37869		17359

Note: Data of financial distance is available up to 2015

Model 6 (DEMO)										
Variables	1992-1994			1995-2002		2003-2007		2009-2013		2014-2015
Constant	3.1972	***		3.5407	***	8.2259	***	11.4560	***	11.3906
	(0.2020)			(0.1899)		0.295521		0.237762		(0.3574)
PERFEED_ASPL(-1)<0	0.0445	***		-0.0460	***	0.015301		-0.02661	***	-0.0290
	(0.0111)			(0.0076)		0.010625		0.00878		(0.0167)
PERFEED_ASPL(-1)>0	-0.0050			0.1423	***	-0.0401	***	0.0425	***	0.0870
	(0.0232)			(0.0106)		(0.0151)		(0.0131)		(0.0217)
FAFF(-1)	0.0040	***		0.0024	***	-0.003885	***	-0.016425	***	-0.0185
	(0.0006)			(0.0004)		0.000699		0.000857		(0.0012)
LOG_AGE(-1)	-0.1610	***		0.1579	***	0.0023		0.1439	**	0.2991
	(0.0505)			(0.0469)		0.071364		0.056168		(0.0841)
R^2	0.1696			0.2699		0.2426		0.2465		0.2101
Adjusted R^2	0.1695			0.2699		0.2426		0.2464		0.2100
F-statistic	2416.57	***		16339.40	***	10825.35	***	14278.95	***	5363.86
Observations	11837			44198		33803		43657		20169

Note: Data of demographic distance is available up to 2015

Model 6 (KNOW)										
Variables	1992-1994		1995-2002		2003-2007		2009-2013		2014-2015	
Constant	11.2500	***	13.1540	***	18.4419	***	22.7431	***	13.4172	***
	(0.5209)		(0.3109)		(0.6171)		(0.4595)		(0.4173)	
PERFEED_ASPL(-1)<0	-0.0277		0.0219	**	0.0094		-0.2327	***	0.0287	
	(0.0281)		(0.0124)		(0.0217)		(0.0169)		(0.0194)	
PERFEED_ASPL(-1)>0	-0.0268		-0.0339	**	0.1379	***	0.4237	***	0.0483	*
	(0.0561)		(0.0173)		(0.0307)		(0.0253)		(0.0253)	
FAFF(-1)	0.0207	***	0.0092	***	0.0245	***	0.0280	***	0.0165	***
	(0.0016)		(0.0006)		(0.0015)		(0.0017)		(0.0014)	
LOG_AGE(-1)	-0.8172	***	-1.0026	***	-0.3589	**	-0.4957	***	-0.1397	
	(0.1301)		(0.0767)		(0.1489)		(0.1085)		(0.0981)	
R^2	0.2748		0.2833		0.3091		0.2931		0.2097	
Adjusted R^2	0.2748		0.2833		0.3090		0.2931		0.2097	
F-statistic	4448.45	***	17382.47	***	15061.44	***	18008.12	***	5316.90	
Observations	11738		43975		33672		43427		20037	

Note: Data of knowledge distance is available only up to 2015

Model 6 (GCON)									
Variables	1996-2002		2003-2007		2009-2013		2014-2015		
Constant	5.4511	***	1.9047	***	1.2299	***	3.0225	***	
	(0.1433)		(0.1049)		(0.0540)		(0.1916)		
PERFEED_ASPL(-1)<0	0.0063		0.0125	***	0.0107	***	0.0132		
	(0.0056)		(0.0038)		(0.0020)		(0.0089)		
PERFEED_ASPL(-1)>0	-0.0306	***	0.0229	***	-0.0231	***	0.0319	***	
	(0.0077)		(0.0054)		(0.0030)		(0.0116)		
FAFF(-1)	-0.0028	***	0.0006	***	-0.0001		-0.0122	***	
	(0.0003)		(0.0002)		(0.0002)		(0.0007)		
LOG_AGE(-1)	-0.5572	***	0.0757	***	0.1139	***	0.2322	***	
	(0.0353)		(0.0253)		(0.0128)		(0.0450)		
R^2	0.2576		0.1996		0.1709		0.2801		
Adjusted R^2	0.2576		0.1996		0.1709		0.2800		
F-statistic	12646.4	***	8110.53	***	8843.74	***	7683.48	***	
Observations	36432		32505		42885		19746		

Note: Data of global connectedness distance is available from 1996-2015

Model 6 (GEO)										
Variables	1992-1994		1995-2002		2003-2007		2009-2013		2014-2017	
Constant	9052.1160	***	9106.4500	***	6469.0620	***	5992.7720	***	5453.4060	***
	(279.9327)		(170.6876)		(191.7258)		(134.8029)		(157.5771)	
PERFEED_ASPL(-1)<0	-60.2718	***	-3.6584		0.1604		-27.1083	***	-6.8327	
	(14.7034)		(6.6885)		(6.9678)		(4.8945)		(6.4961)	
PERFEED_ASPL(-1)>0	-22.8274		-30.3233	***	12.7574		9.6174		44.5191	***
	(28.1913)		(9.5345)		(9.6162)		(7.2789)		(9.8339)	
FAFF(-1)	5.4924	***	1.6668	***	3.2449	***	7.8768	***	11.1060	***
	(0.8455)		(0.3856)		(0.5243)		(0.5566)		(0.5798)	
LOG_AGE(-1)	-661.8939	***	-746.6073	***	-163.9133	***	-114.0001	***	-12.7759	
	(70.0214)		(42.1107)		(46.2426)		(31.7353)		(36.8606)	
R ²	0.2592		0.3685		0.4297		0.4724		0.4946	
Adjusted R ²	0.2591		0.3684		0.4297		0.4724		0.4946	
F-statistic	4605.67		28266.24		27661.32	***	42073.45	***	8787.28	***
Observations	13164		48440		36710		46987		44888	

5.3.2 Summary of robustness check on time series

Table 5.28: Summary of the robustness check of the validity of time series analysis – speed of internationalization

	1992–1994		1995–2002		2003–2007		2009–2013		2014–2017	
	After the peak of economic cycle in Japan		Normal period		Before the global financial crisis		After the global financial crisis		Recent period	
Speed dimensions	Performance feedback<0	Performance feedback>0	Performance feedback<0	Performance feedback>0	Performance feedback<0	Performance feedback>0	Performance feedback<0	Performance feedback>0	Performance feedback<0	Performance feedback>0
Speed of change in the degree of internationalization (FSTSP)	-0.0069	+0.008	+0.005***	-0.0046***	+0.0017**	-0.0043***	+0.0005	-0.0007	+0.0043***	-0.0035***
Speed of change in the commitment of foreign resources (FETEP)	-0.0064***	+0.0043	+0.0082***	-0.0006	+0.0022*	-0.0039**	+0.0027***	-0.0009	+0.0049***	-0.0045***
Speed of change in the commitment of foreign resources (FAFFP)	+0.0014	-0.0063***	+0.0046***	+0.0008	+0.0014**	-0.0015*	+0.0035***	-0.0012*	+0.0007	-0.0003
Speed of change in the breadth of foreign markets (FCONP)	+0.0021**	-0.0052***	+0.0038***	+0.0001	+0.00002	+0.0006	+0.0028***	-0.0007	+0.0007**	+0.0001

Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5.29: Summary of the robustness check of the validity of time series analysis – foreign location choice

	1992–1994		1995–2002		2003–2007		2009–2013		2014–2017	
	After the peak of economic cycle in Japan		Normal period		Before the global financial crisis		After the global financial crisis		Recent period	
Psychic distances	Performance feedback<0	Performance feedback>0	Performance feedback<0	Performance feedback>0	Performance feedback<0	Performance feedback>0	Performance feedback<0	Performance feedback>0	Performance feedback<0	Performance feedback>0
Administrative (ADMIN)	-0.2850***	+0.6449***	-0.0521	+0.4717***	+0.0167	+0.0915	-0.4279***	+0.3010	-0.1431***	+0.4741***
Economic (ECON)	+0.0405	+0.2826***	-0.0851***	+0.1363***	-0.0366**	+0.0045	-0.0166	-0.0214	-0.1121***	+0.1635***
Cultural (CUL G)	-0.0180***	+0.0088	-0.0020	+0.0099***	-0.0037***	+0.0113***	-0.0109***	+0.0083***	-0.0054***	+0.0181***
Political (POLITC)	-2.1236***	-0.1478	-48.8832***	+37.5412***	-6.8569	+28.2255	+29.4092	+205.8416** *	-47.5524	+254.0241***
Financial (FINAN)	+0.0428	+0.2541***	+0.0408**	-0.2449***	-0.0695***	+0.0828***	-0.0864***	+0.0644***	-0.0399	+0.1463***
Demographic (DEMO)	+0.0445***	-0.0050	-0.0460***	+0.1423***	+0.0153	-0.0401***	-0.0266***	+0.0425***	-0.0290*	+0.0870***
Knowledge (KNOW)	-0.0277	-0.0268	+0.0219**	-0.0339**	+0.0094	+0.1379***	-0.2327***	+0.4237***	+0.0287	+0.0483*
Global connectedness (GCON)†	N/A	N/A	+0.0063	-0.0306***	+0.0125***	+0.0229***	+0.0107***	-0.0231***	+0.0132	+0.0319***
Geographic (GEO)	-60.2718***	-22.8274	-3.6584	-30.3233***	+0.1604	+12.7574	-27.1083***	+9.6174	-6.8327	+44.5191***

Note: † Global connectedness distance is available from 1996.

Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

5.4 Summary of empirical results and key findings

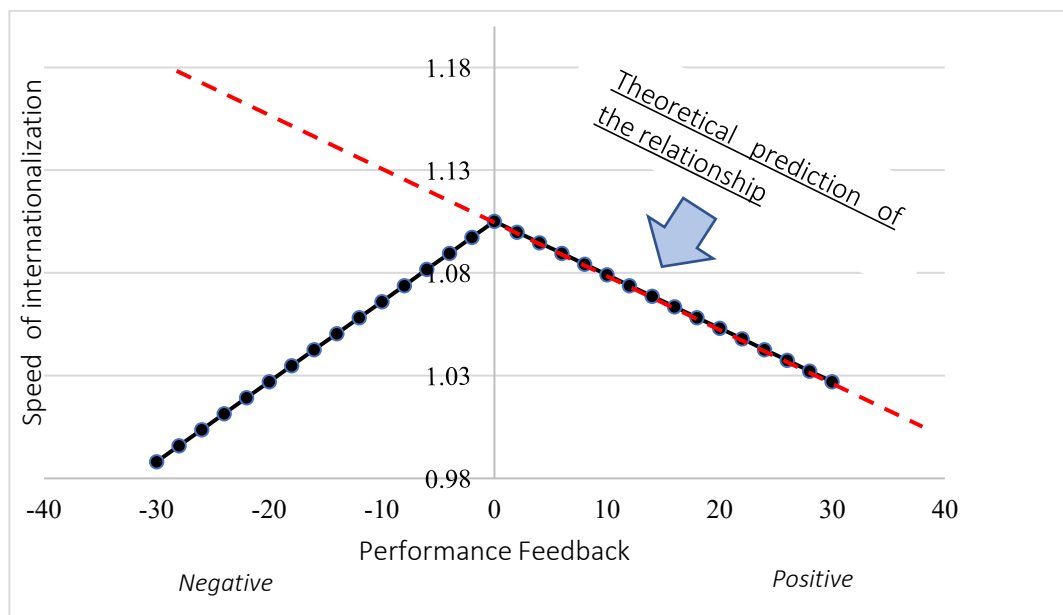
Conventional theory in the process of a firm's internationalization emphasizes the role of experiential knowledge of the international market as a determinant for incremental growth in the commitment to international markets and in the expansion from a psychically close country to a psychically distant country. However, a flourishing information age, together with the revolution in ICT, has facilitated global connectivity and cross-border knowledge exchange, changing international business environments today (Alcácer et al., 2016). The validity of the "gradual internationalization" argument has been questioned. Several scholars have argued that firms do not exhibit a constant speed of internationalization but do have some intense periods of internationalization (Casillas & Acedo, 2013). This dissertation attempted to prove this claim and investigate the internal factors that underlie the managerial decision to change the speed of internationalization and to select locations at great psychic distance.

The result of empirical analyses illustrated that after controlling for key firm's characteristics (i.e., international experience, age, and size), performance feedback, organizational slack, and industry global competition are relevant in the managerial decision to change the speed of internationalization process and in the role of psychic distance in foreign location choice. According to the behavioral theory of the firm, a negative discrepancy between performance and aspiration level should induce a firm to increase its speed of internationalization and expand its business to a location that is at great psychic distance. The performance feedback is expected to have a negative relationship with the speed of internationalization and with psychic distance. Rather than obtaining results that are fully consistent with the theory, performance feedback was found to have non-linear relationships with speed of internationalization (Figure 5.1) and psychic distance (Figure 5.2). Managerial responses to discrepancy between performance and aspirations seem to be significantly different among firms performing above aspiration levels and those performing below aspiration levels. Although the statistical significance of the empirical results is different in the estimation of each speed dimension, the relationship between performance feedback and the speed of internationalization process is apparently an inverted U-shape,

as shown in Figure 5.1. When the performance of firms below aspiration levels improves, they are likely to increase the speed of internationalization. Firms performing above aspirations are likely to decrease the speed of internationalization as their performances exceed aspiration levels.

Figure 5.1: Inverted U-shaped relationship between performance feedback and speed of internationalization

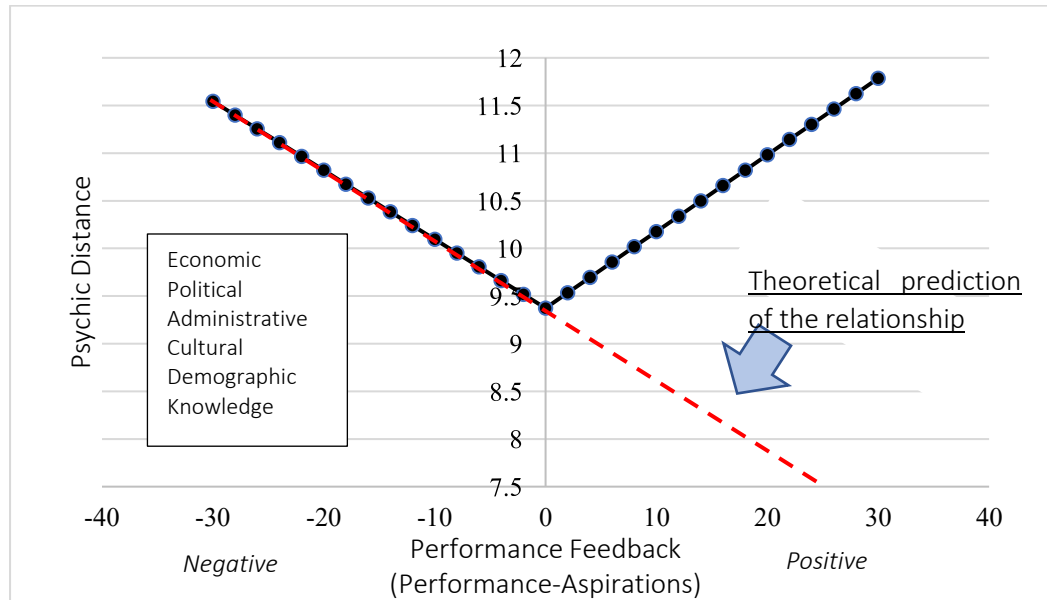
This figure displays the general relationship between performance feedback and the speed of internationalization for a sample of publicly listed manufacturing firms in Japan during 1991–2017. Performance feedback refers to the difference between a firm’s performance and aspiration levels. The speed of internationalization refers to the speed of change in the degree of internationalization, the speed of change in the commitment of foreign resources, and the speed of change in the breadth of international markets.



Analyzing foreign location choices, this dissertation found an interesting pattern of location choices, as shown in Figure 5.2. The U-shaped relationship between performance feedback and psychic distance suggests that firms performing better or lower than aspiration levels are likely to select foreign locations at great psychic distance in terms of economic development, political stability, administrative, culture, demographic, and knowledge. Conversely, the inverted U-shaped relationship between performance feedback and the financial and global connectedness dimension of psychic distance suggests that firms performing above or below aspiration levels are inclined to invest in locations that are psychically close in terms of financial sector development and global connectedness. Differential non-linear effects of performance feedback lead to the conclusion that firms performing above and below aspiration levels take different strategic actions in response to performance feedback.

Figure 5.2: U-shaped relationship between performance feedback and foreign location choice

This figure presents the general pattern of the relationship between performance feedback and the psychic distance for a sample of publicly listed firms in Japan during 1991–2017. Performance feedback refers to the difference between a firm's performance and aspiration levels. Psychic distance refers to the nine dimensions of psychic distances, that is, economic, financial, administrative, political, cultural, demographic, knowledge, global connectedness, and geographic. Note that the U-shaped relationship was found only between performance feedback and psychic distance, that is, economic, political, administrative, cultural, demographic, and knowledge distance. The relationship of financial and global connectedness distance was an inverted U curve, but the relationship of geographic distance was not statistically significant.



As can be seen from the results in Tables 5.30 and 5.31, slack also triggered the change in the speed of internationalization and psychic distance. However, among the three types of slack, that is, absorbed, unabsorbed, and potential slack, only potential slack presented a statistically significant and positive effect on both speed of internationalization and foreign location choice as predicted by the theory. The empirical finding in this study supported the hypothesis that firms with high potential slack are more likely to increase their speed of internationalization and expand businesses to psychically distant locations. Because internationalization is a long-term investment and requires a substantial and long-term financial commitment (Johansson & Vahlne, 2009), firms with more potential slack, which is an indicator of the ability to raise funds from external sources in the future, are inclined toward rapid internationalization and choose locations at a great psychic distance.

The empirical findings in this dissertation confirmed that firms initiate different strategies in response to various financial variables, that is, performance and slack. Below-aspiration performing

firms may choose to expand business to a country with great difference in economic development, political stability, administrative system, culture, demographic, and knowledge but close in terms of financial development and global connectedness. The differences in statistical significance in the prediction of each speed dimension also indicated the complexity and dynamic phenomenon of internationalization process. The speed of internationalization can be measured in several dimensions and each speed dimension exhibits a different relationship to a firm's performance feedback and organization slack. The global competitive environment in an industry was also found to play a pivotal role in moderating the internationalization behavior of firms. More specifically, the presence of global competition in the industry accelerates the speed of internationalization of firms.

Table 5.30: Summary of the results of hypothesis testing on the speed of internationalization

Independent Variables	Est. Sign	Speed of internationalization							
		Speed of change in the degree of internationalization	Supported	Speed of change in the commitment of foreign resources (Foreign Employees)	Supported	Speed of change in the commitment of foreign resources (Foreign Affiliates)	Supported	Speed of change in the breadth of international markets	Supported
Performance Feedback <0	-	+	No	+***	No	+***	No	+***	No
Performance Feedback >0	-	-.***	Yes	-	No	-	No	-	No
Absorbed slack	+	+	No	+	No	-	No	-	No
Unabsorbed slack	+	-	No	-	No	-.***	No	-.**	No
Potential Slack	-	-.**	Yes	+	No	-.**	Yes	-.***	Yes
Absorbed Slack *Performance Feedback	-	+	No	-	No	+	No	+	No
Unabsorbed Slack *Performance Feedback	-	+	No	+	No	+	No	+	No
Potential Slack *Performance Feedback	-	+	No	-	No	+	No	+	No
Industry Global Competition *Performance Feedback	-	-.*	Yes	-.**	Yes	-	No	-.*	Yes
Industry Global Competition *Absorbed Slack	+	+	No	+	No	+	No	+**	Yes
Industry Global Competition *Unabsorbed Slack	+	-	No	-	No	-.**	No	-.**	No
Industry Global Competition *Potential Slack	-	-	No	-	No	-.**	Yes	-.**	Yes

Note: "Supported" denotes "hypothesis supported," indicating whether empirical results support the hypothesis. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5.31: Summary of the results of hypothesis testing on foreign location choice

Psychic Distance	Performance Feedback <0	Supported	Performance Feedback >0	Supported	Absorbed slack	Supported	Unabsorbed slack	Supported	Potential Slack	Supported
Estimated Sign	-		-		+		+		-	
Economic	***	Yes	***	No	-	No	***	Yes	**	Yes
Financial	***	No	***	Yes	***	Yes	***	Yes	***	No
Political	***	Yes	***	No	***	Yes	***	Yes	***	Yes
Administrative	***	Yes	***	No	***	Yes	***	Yes	***	Yes
Cultural	***	Yes	***	No	***	Yes	***	Yes	***	Yes
Demographic	***	Yes	***	No	***	No	***	Yes	***	Yes
Knowledge	***	Yes	***	No	***	Yes	+	Yes	***	Yes
Global Connectedness	***	No	***	Yes	***	No	**	No	***	No
Geographic	-	No	+	No	***	Yes	+	Yes	-	Yes

Psychic Distance	Absorbed slack *Performance Feedback	Supported	Unabsorbed slack *Performance Feedback	Supported	Potential slack *Performance Feedback	Supported
Estimated Sign	-		-		-	
Economic	+	No	+	No	-	No
Financial	***	No	+	No	***	No
Political	+	No	***	No	***	Yes
Administrative	-	No	***	No	***	Yes
Cultural	+	No	***	No	***	Yes
Demographic	-	Yes	+	No	***	Yes
Knowledge	+	No	+	No	+	No
Global Connectedness	-	No	+	No	+	No
Geographic	+	No	***	No	+	No

Note: “Supported” denotes “hypothesis supported,” indicating whether empirical results support the hypothesis. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

CHAPTER 6

CONCLUSION

6.1 Contributions and research implications

The empirical analyses of the internationalization activities of Japanese firms for the period 1991–2017 have provided a better understanding of the behavior of publicly listed Japanese multinational firms, which are key players in the global market. The findings in this dissertation have made important contributions to the literature in international business. Furthermore, they extend the behavioral theory of the firm in the context of internationalization strategy. First, this dissertation contributes to the multidimensional perspective of internationalization process by applying the multidimensionality concept in measuring the speed of internationalization and psychic distance. International business scholars have discussed the multidimensional concept of internationalization process (e.g., Sullivan, 1994; Oviatt & McDougall, 1997; Casillas & Acedo, 2013) and psychic distance (Berry et al., 2010) in many conceptual papers for decades. Many scholars have suggested that studies on the internationalization process should take into account the multidimensional nature of the internationalization process when empirically operationalizing it (Glaum & Oesterle, 2007). However, to the best of my knowledge, few empirical studies on the internationalization process have applied the concept of multidimensionality to measure the degree of internationalization and psychic distance. This dissertation measured the speed of internationalization and psychic distance in multiple dimensions, and provided empirical evidence that supports a multidimensional perspective of the speed of internationalization and psychic distance. More specifically, I found that the speed of change in the degree of internationalization, speed of change in the commitment of foreign resources, speed of change in the breadth of foreign markets, and nine psychic distance dimensions are distinct from each other, as they revealed different sensitivities to performance feedback and organizational slack.

Second, this dissertation contributes to the literature on the internationalization process theory by investigating firm-level behavioral explanations on the change in speed of internationalization and the

foreign location choice. By studying the internationalization behavior of publicly listed Japanese MNEs, the concept of behavioral theory of the firm has been extended to the context of Japanese business, further generalizing the theory. The empirical findings in this dissertation illustrated that contrary to conventional belief, firms neither gradually expand businesses to international markets at constant rates nor do they start investments at psychically close locations. Firms randomly change the speed of internationalization and selected locations in response to their financial performance relative to aspiration levels and a certain type of organizational slack. Based on the sample of Japanese MNEs from 1991–2017, financial variables, that is, performance feedback and organizational slack were found to be influential factors of managerial decisions to undertake rapid internationalization and select countries at great psychic distances for foreign investment. Interestingly, the discrepancy between performance and aspirations, that is, performance feedback, negatively associates with the speed of internationalization, but positively associates with most of the psychic distance dimensions. More specifically, the findings illustrated that both below-aspiration performing firms and above-aspiration performing firms internationalize at a lower speed but showed propensity to select foreign investment locations at great psychic distance. Around-aspiration performers exhibit the most rapid internationalization behavior, but select foreign locations that are not significantly different in terms of psychic distance. Among three types of organizational slack, that is, absorbed, unabsorbed, and potential slack, potential slack was found to be the most significant and influential factor underlying the change in speed of internationalization and psychic distance to foreign investment location.

Finally, this dissertation contributes to the literature on behavioral theory of the firm in that it extends the concept of problemistic search and slack search to study another form of risky organizational strategy, that is, internationalization. The empirical results in this dissertation confirmed the relevance of performance feedback and slack to the change in speed of internationalization and investment in psychically distant locations. Contrary to the concept of problemistic search, which suggests that negative attainment discrepancy induces a firm to search for a risky alternative, the findings in this dissertation showed that when the performance of firms falls below aspiration levels, they tend to decrease their speed of internationalization to minimize risk. Below-aspirations firms are likely to increase the speed of internationalization as performance improves and approaches aspiration levels. Thus, firms are inclined to search for risky alternatives to improve performance, that is, by increasing the speed of internationalization,

if they perceive the discrepancy as an attainable gap and can still recognize opportunities to improve their performance. According to the threat rigidity theory, firms that perform significantly lower than their aspiration levels may shift focus to market survival, if they perceive the discrepancy as a threat, and tend to avoid risky alternatives (Audia & Greve, 2006; March & Shapira, 1992). The statistically significant and positive relationship between (1) potential slack and speed of internationalization and (2) organizational slack (i.e., absorbed slack, unabsorbed slack, and potential slack) and psychic distance were found to be consistent with the concept of slack search. This dissertation has made extensions of slack search perspective to the field of internationalization strategy.

6.2 Managerial implications

The findings of this dissertation not only enrich our knowledge in terms of theory, but also provide implications for managerial practices. First, as evidenced by empirical findings in this dissertation, management will realize that contrary to traditional internationalization theory, other firms may not expand their businesses to international markets in a gradual step-by-step process. Experience in international markets, as apparent by the number of foreign affiliates, was found not to be associated with the propensity to internationalize. This may suggest that firms can expand business to overseas markets without prior establishment of foreign affiliates. Therefore, management should take quick action to capture emerging profitable opportunities in foreign markets, as the findings of Chang and Rhee (2011) suggest that rapid internationalization enhances a firm's performance. Quick action is particularly important for firms in an industry that faces high competition from the global market. A group of peers in a globally competitive industry tends to exhibit higher speeds of internationalization in response to negative performance feedback. Thus, management should actively seek an appropriate level of internationalization, or face the risk of being a late mover.

Second, this dissertation found empirical evidence to support the role of aspiration level in the managerial decision process. The critical role of aspiration levels has been long discussed by March and Shapira (1987, 1992), in that most managers seem to have a greater risk appetite when confronting failure to meet targets than when targets were secure. Target or goal or aspiration level is a critical factor in the

managerial decision-making process. If the aspiration level is set too high and seen as unachievable, a large negative attainment discrepancy might be perceived as a threat, and thus, firms avoid taking risk, or in other words, stay domestic. Therefore, based on the theories of decision-making from a psychological perspective, management should continuously adjust the aspiration level to be motivational but attainable (Simon, 1959).

Finally, potential slack was found to be the most influential resource in supporting the internationalization process. Potential slack, as measured by the ratio of debt to equity, indicates a firm's ability to raise funds through external sources, such as debt, to support expansion to international markets. Firms consider debt to be a prominent source of funds when they plan to expand their business to overseas markets. Therefore, management of MNEs should maintain appropriate level of borrowing capacity so that firms can potentially raise funds through external sources when they plan to increase the speed of internationalization or expand business to psychically distant locations.

6.3 Study limitations and suggestions for future research

When interpreting the results of this dissertation, it is important to consider some of its limitations. First, although this empirical study may rule out the cross-national effect, being a single-country study, it cannot be assumed that the results are generalizable to small- and medium-sized firms in Japan or to MNEs originating from other countries, or to MNEs in the service industry. Future research can test my empirical results with a different sample of firms to explore if firms in service industry, firms from different origins, and SMEs exhibit similar patterns of internationalization behavior.

Second, the literature on the behavioral theory of the firm advocates the role of financial items, that is, organizational slack and performance feedback, as determinants of firms' risk-taking behavior. However, it should be noted that absorbed slack, unabsorbed slack, potential slack, and performance feedback, may not be able to fully capture the effects of intangible resources (e.g., intellectual property, know-how, trademark, brand, patents, and so on) and corporate characteristics (e.g., corporate governance structure and management style) on internationalization behavior and foreign location choice. Future

research may test other types of intangible resources or include other firm's specific characteristics, which are important for competitiveness.

Third, this dissertation primarily investigates the internal factors (i.e., firm-level variables) that determine the internationalization behavior of a firm. These distinct variables are considered push factors. However, some external factors at the macro level might influence the internationalization process, such as bilateral or multilateral investment agreements, or the FDI incentive policy of a host country. Future research can extend the scope of this study by exploring the effect of the external pull factors on the speed of internationalization and location choice.

Lastly, this dissertation used a combination of social performance (i.e., average performance of peers) and historical performance (i.e., firms' past performance) to construct the aspiration levels; however, firms may exhibit different strategic actions in response to other types of measurement of the aspiration levels. Future research may investigate extensively into how market leaders, market followers, and market losers, set their aspiration levels. In addition, to further explore the unexpected positive effect of performance feedback on the speed of internationalization among below-aspiration firms, future research may study whether there are any shifts in the focus of market leaders, market followers, and market losers.

The internationalization behavior of firms has always been an interesting strand of research. Many aspects of a firm's internationalization behavior remain puzzles, and even today, cannot be clearly understood. In this dissertation, I attempt to enhance the understanding of Japanese firms' internationalization behavior from the perspective of the behavioral theory, and successfully capture key patterns of the relationship of performance feedback–internationalization behavior and slack–internationalization process. The speed of a firm's internationalization process and the psychic distance of foreign location choices are positively associated with slack and are non-linearly associated with performance feedback. The non-linear relationship exhibits different intensities in the behaviors of leading firms, mediocre firms, and losing firms. These patterns are also clear among firms in highly global competitive industries.

APPENDIX A: EMPIRICAL RESULTS OF THE MODERATING EFFECT OF SLACK

Table A1: Regression of the moderating effect of slack on the relationship between performance feedback and speed of internationalization, without the slack variable as a main effect

This table presents the results of OLS regressions of the moderating effect of slack on the relationship between performance feedback and the speed of internationalization for a sample of publicly listed firms in Japan. Only the interaction term of slack and performance feedback, without the slack variable as a main effect, is included in the analysis. The speed of internationalization is measured as FSTSP, FETEP, FAFFP, and FCONP. FSTSP is measured as the percentage change in the ratio of foreign sales to total sales in year t when compared to year t-1. FETEP is measured as the percentage change in the ratio of foreign employees to total Japanese employees (FETE) in year t when compared to year t-1. FAFFP is measured as the percentage change in the number of foreign affiliates and subsidiaries in year t when compared to year t-1. FCONP is measured as the percentage change in the number of foreign locations in year t when compared to year t-1. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback, as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK*PERFEED_ASPL, UNABSORBED_SLACK*PERFEED_ASPL, and POTENTIAL_SLACK*PERFEED_ASPL denote the interaction terms of slack (i.e., absorbed slack, unabsorbed slack, and potential slack) and performance feedback. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variables	FSTSP	FETEP	FAFFP	FCONP
Constant	1.0717 *** (0.1078)	1.1126 *** (0.2346)	1.4177 *** (0.0844)	1.2914 *** (0.0650)
PERFEED_ASPL(-1)<0	-0.0014 (0.0019)	0.0079 *** (0.0022)	0.0020 ** (0.0010)	0.0012 * (0.0007)
PERFEED_ASPL(-1)>0	-0.0046 ** (0.0018)	0.0010 (0.0025)	-0.0006 (0.0011)	-0.0003 (0.0008)
FAFF_TRM(-1)	-0.0001 (0.0002)	-0.0022 *** (0.0007)	-0.0055 *** (0.0004)	-0.0032 *** (0.0003)
LOG_AGE(-1)	-0.0057 (0.0263)	-0.0087 (0.0574)	-0.0721 *** (0.0208)	-0.0526 *** (0.0160)
ABSORBED_SLACK(-1)	0.0000 (0.0001)	-0.0001 (0.0001)	0.0000 (0.0000)	0.0000 (0.0000)
*PERFEED_ASPL(-1)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
UNABSORBED_SLACK(-1)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
*PERFEED_ASPL(-1)	0.0004 (0.0002)	-0.0003 (0.0002)	0.0001 (0.0001)	0.0001 (0.0001)
POTENTIAL_SLACK(-1)				
*PERFEED_ASPL(-1)				
Firm-fixed effects	Yes	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes
R^2	0.1122	0.0769	0.1027	0.09140
Adjusted R^2	0.0463	0.0186	0.0548	0.04289
F-statistic	1.7021 ***	1.3185 ***	2.1445 ***	1.8839 ***
Firms included	635	686	705	705
Observations	9637	12074	14520	14520

Table A2: Regression of the moderating effect of slack on the relationship between performance feedback and location choices, without the slack variable as a main effect

This table presents the results of GLS regressions of the moderating effects of slack on the relationship between performance feedback and location choice for a sample of publicly listed firms in Japan. The analysis includes only the interaction terms of slack and performance feedback, without the slack variable as a main effect. The cross-national psychic distance is measured in the following nine dimensions: economic (ECON), financial (FINAN), political (POLITC), administrative (ADMIN), cultural distance (CUL_G), demographic (DEMO), knowledge (KNOW), global connectedness (GCON), and geographic (GEO) dimensions. FAFF is the number of affiliates and subsidiaries. LOG_AGE is the natural logarithm of years since the firm's foundation year. PERFEED_ASPL is the performance feedback, as measured by the firm's return on asset (ROA) minus aspiration level. ABSORBED_SLACK*PERFEED_ASPL, UNABSORBED_SLACK*PERFEED_ASPL, and POTENTIAL_SLACK* PERFEED_ASPL denote the interaction terms of slack (i.e., absorbed slack, unabsorbed slack, and potential slack) and performance feedback. A one-year time lag between the independent variables and the dependent variables was adopted to avoid reverse causality. Standard errors are reported in parentheses. Symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	ECON		FINAN		POLITC		ADMIN		CUL_G		DEMO		KNOW		GCON		GEO	
Constant	9.4087	***	15.8765	***	3133.2300	***	78.1961	***	2.5992	***	3.6170	***	11.2817	***	2.8330	***	7032.5630	***
	(0.4696)		(0.4903)		(656.8080)		(1.1259)		(0.0309)		(0.3048)		(0.5403)		(0.1165)		(164.6160)	
PERFEED_ASPL (-1)<0	-0.1066	***	0.0887	**	-77.2818		-0.1756	**	0.0053	**	-0.1973	***	-0.2209	***	0.0277	***	14.6383	
	(0.0366)		(0.0381)		(49.1787)		(0.0893)		(0.0024)		(0.0234)		(0.0412)		(0.0089)		(12.4712)	
PERFEED_ASPL (-1) >0	0.0592		-0.1152	***	361.4301	***	0.9758	***	0.0314	***	0.1872	***	0.4602	***	-0.0324	***	24.4917	*
	(0.0372)		(0.0386)		(49.6850)		(0.0927)		(0.0025)		(0.0237)		(0.0418)		(0.0089)		(12.9557)	
FAFF (-1)	-0.0112	***	-0.0049	***	6.4496	***	-0.0171	***	0.0009	***	-0.0035	***	0.0179	***	-0.0014	***	4.0107	***
	(0.0012)		(0.0013)		(2.0535)		(0.0029)		(0.0001)		(0.0008)		(0.0015)		(0.0003)		(0.4763)	
LOG_AGE (-1)	-0.3674	***	-1.8607	***	1206.7000	***	0.0108		-0.0738	***	1.1016	***	0.8132	***	-0.0612	**	-300.1011	***
	(0.1136)		(0.1186)		(158.0688)		(0.2715)		(0.0074)		(0.0736)		(0.1304)		(0.0280)		(39.5637)	
ABSORBED_SLACK (-1)	0.0015		0.00001		-5.1289	***	-0.0159	***	-0.0007	***	0.0012		-0.0055	***	0.0005	*	-1.8033	***
*PERFEED_ASPL(-1)	(0.0011)		(0.0012)		(1.5343)		(0.0027)		(0.0001)		(0.0007)		(0.0013)		(0.0003)		(0.3878)	
UNABSORBED_SLACK(-1)	-0.0001		-0.0001		0.2172	*	-0.0003		0.00001		-0.0001	**	0.0002	*	0.00001		0.1033	***
*PERFEED_ASPL(-1)	(0.0001)		(0.0001)		(0.1112)		(0.0002)		(0.0000)		(0.0001)		(0.0001)		(0.0000)		(0.0290)	
POTENTIAL_SLACK(-1)	0.0000		0.0000		0.0625		0.0004	***	0.00001		0.0001	***	0.0001	***	0.00001	***	0.0134	
*PERFEED_ASPL(-1)	(0.0000)		(0.0000)		(0.0415)		(0.0001)		(0.0000)		(0.0000)		(0.0000)		(0.0000)		(0.0105)	
R^2	0.2316		0.1670		0.5105		0.1408		0.1761		0.3650		0.3951		0.2656		0.4281	
Adjusted R^2	0.2315		0.1670		0.5104		0.1408		0.1761		0.3650		0.3951		0.2655		0.4281	
F-statistic	6328.75	***	3752.22	***	21088.13	***	3898.76	***	5088.68	***	12091.73	***	13702.25	***	6675.14	***	18631.24	***
Observations	168004		149705		161796		190313		190486		168278		167828		147695		211464	

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